

KIC 006383785

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
006383785-01	OBS	0239.01	5.640675	132.915759	1448.4	3.041	127.5	134.7	1.22	5794	5.21	379.89
006383785-02	OBS	0239.02	3.622764	132.990546	169.1	2.847	17.4	18.9	1.22	5794	1.88	685.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006383785-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
006383785-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

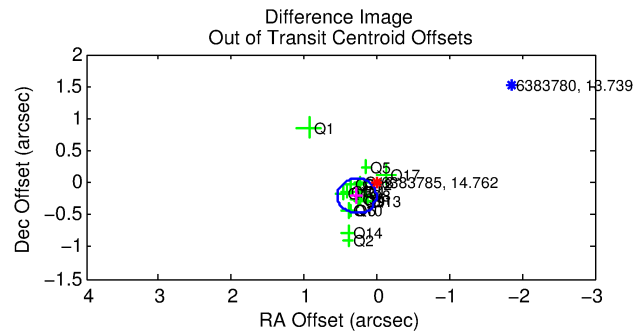
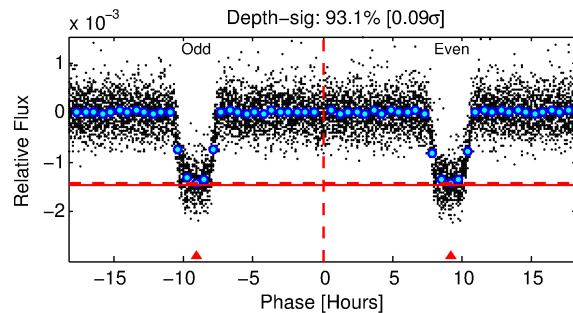
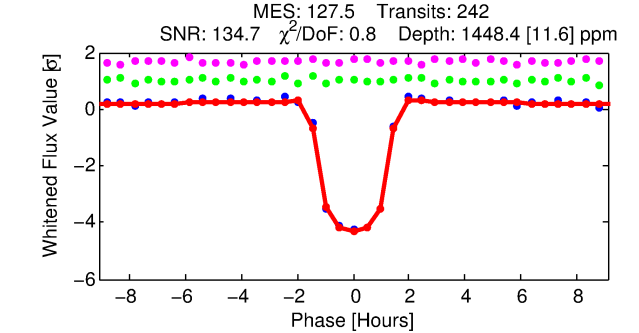
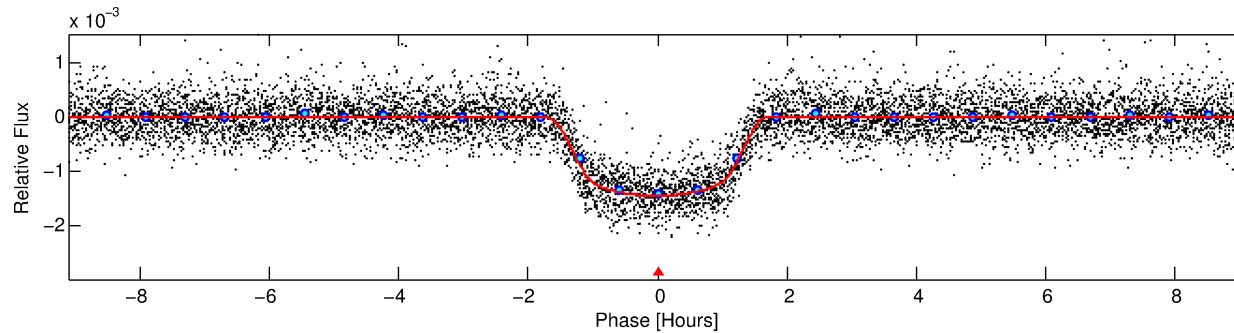
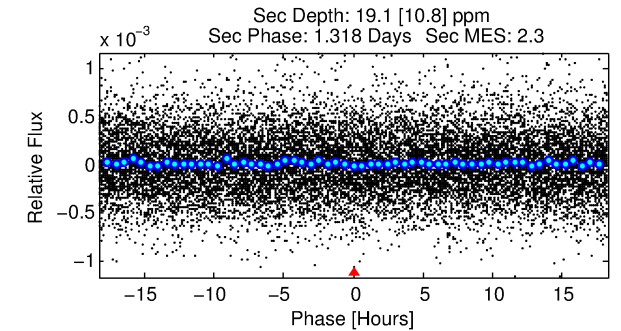
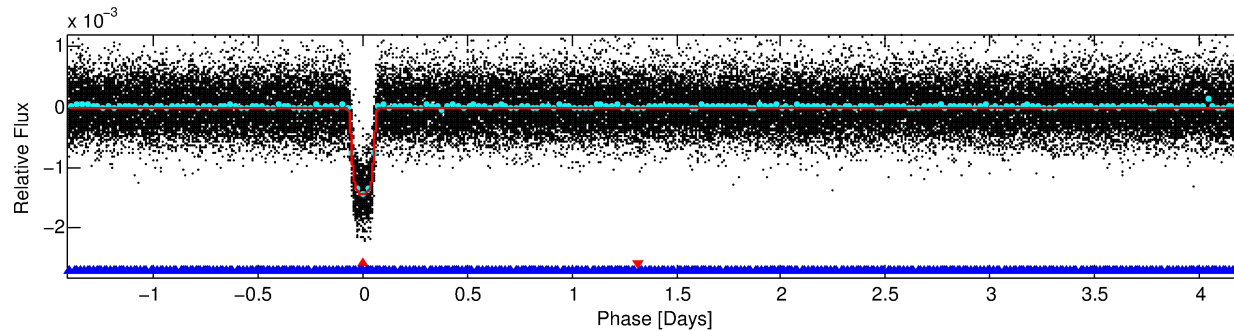
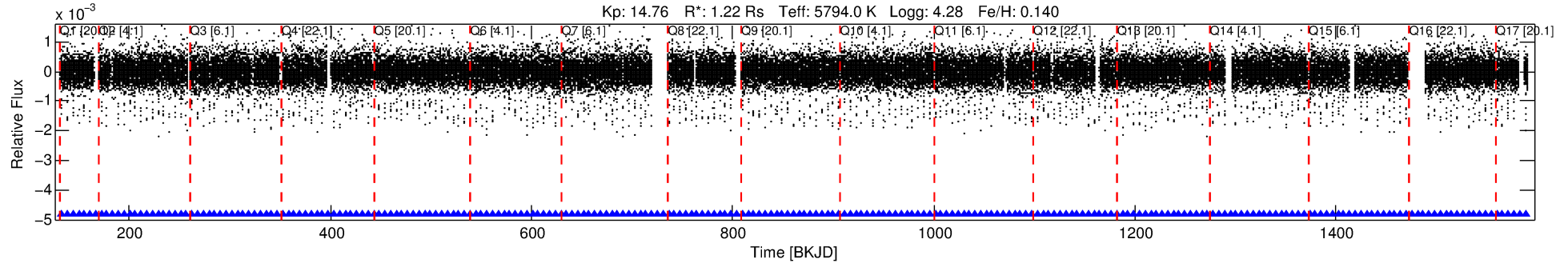
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006383785-01

No Significant Match Found

DV One-Page Summary

KIC: 6383785 Candidate: 1 of 2 Period: 5.641 d
KOI: K00239.01 Corr: 0.977



DV Fit Results:

Period = 5.64068 [0.00000] d
Epoch = 132.9158 [0.0004] BKJD
Rp/R* = 0.0392 [0.0012]
a/R* = 9.06 [1.18]
b = 0.82 [0.05]
Seff = 379.89 [92.49]
Teq = 1126 [69] K
Rp = 5.20 [0.87] Re
a = 0.0627 [0.0095] AU
Ag = 1.53 [0.94] [0.56σ]
Teffp = 1934 [277] K [2.84σ]

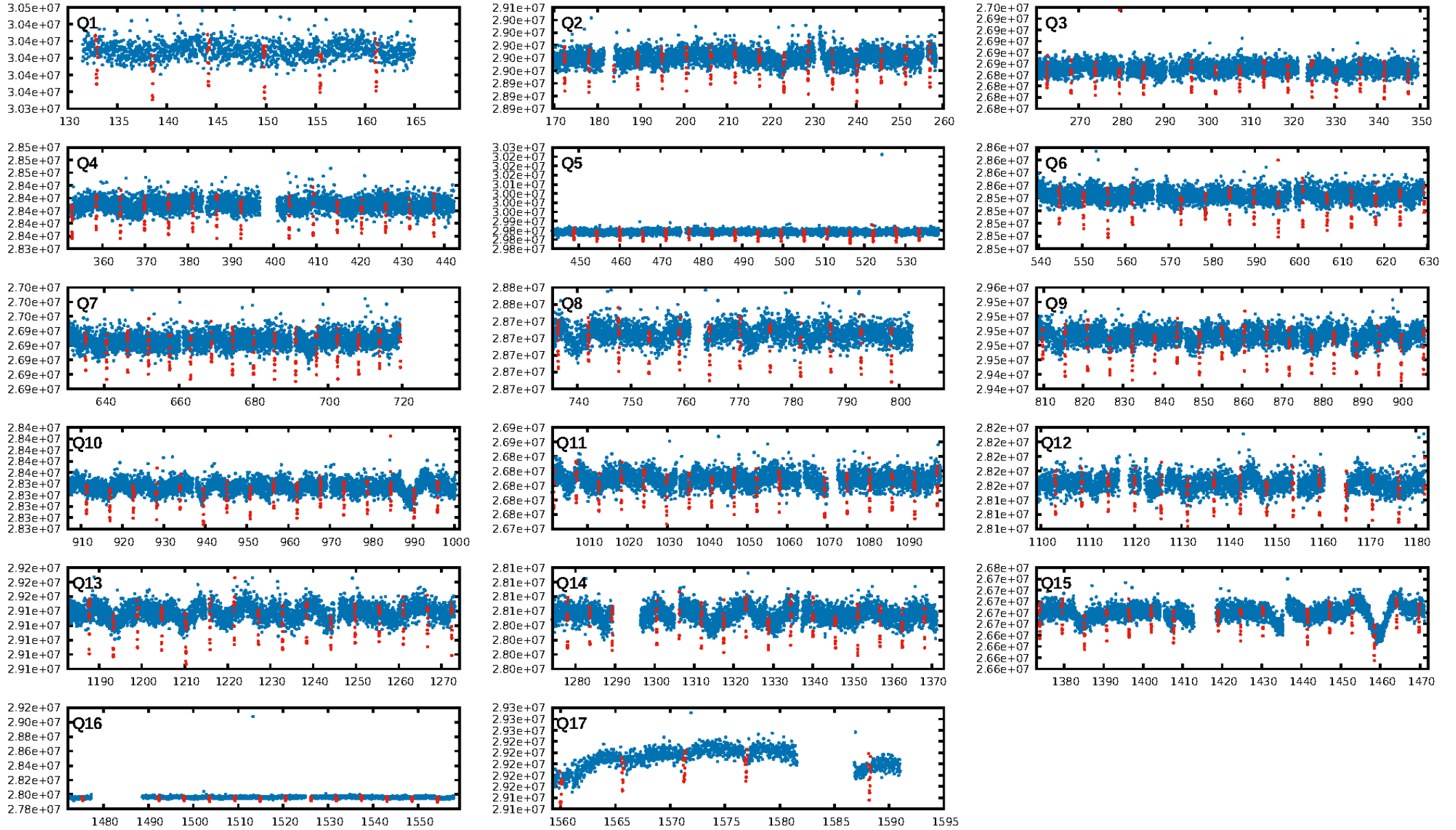
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [11.63σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [231/231]
GhostDiagnostic-chr: 5.323
Centroid-sig: 0.0%
Centroid-so: 0.943 arcsec [11.38σ]
OotOffset-rm: 0.345 arcsec [3.83σ]
KicOffset-rm: 0.109 arcsec [1.02σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

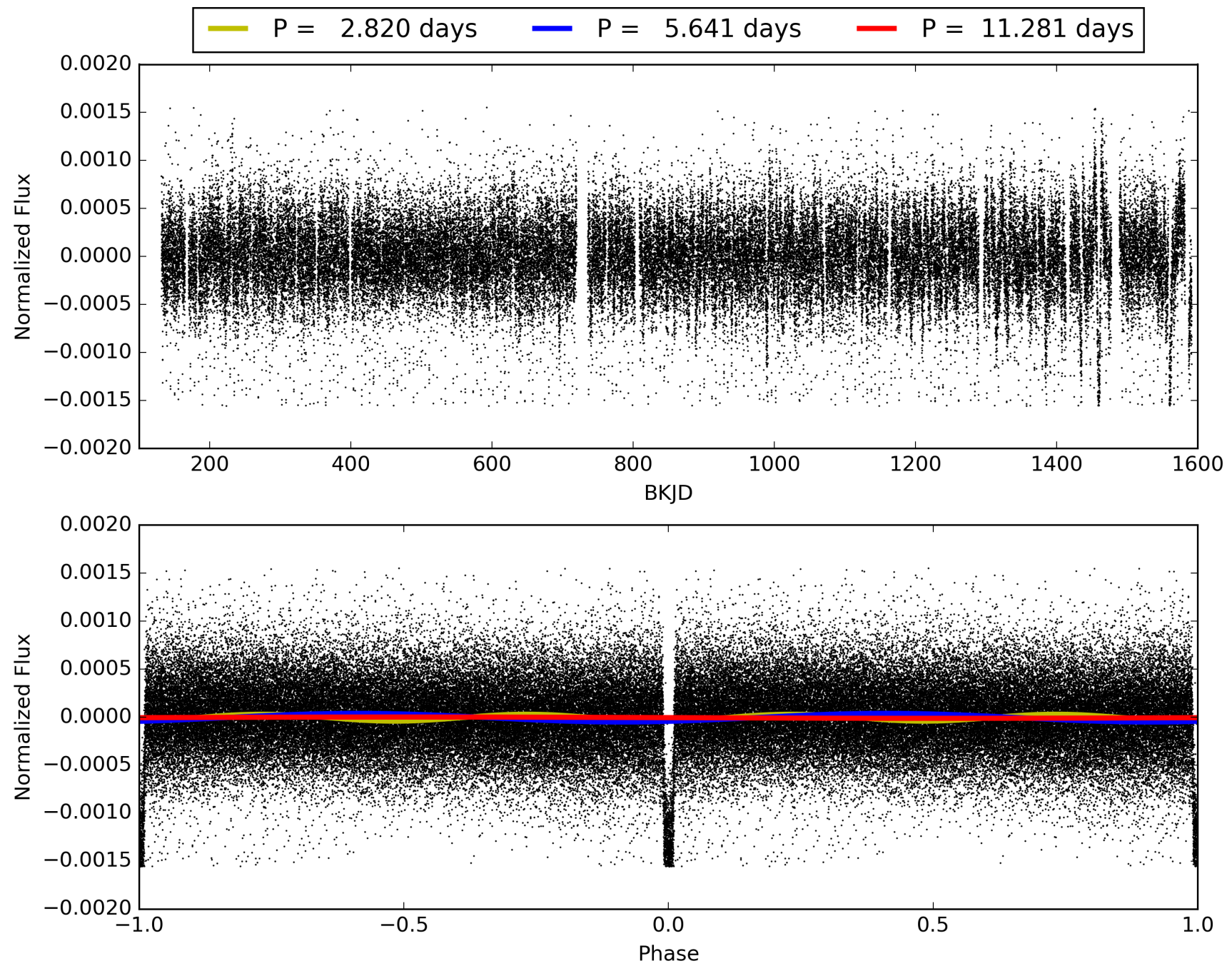
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:14:37 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006383785-01, PDC Light Curves

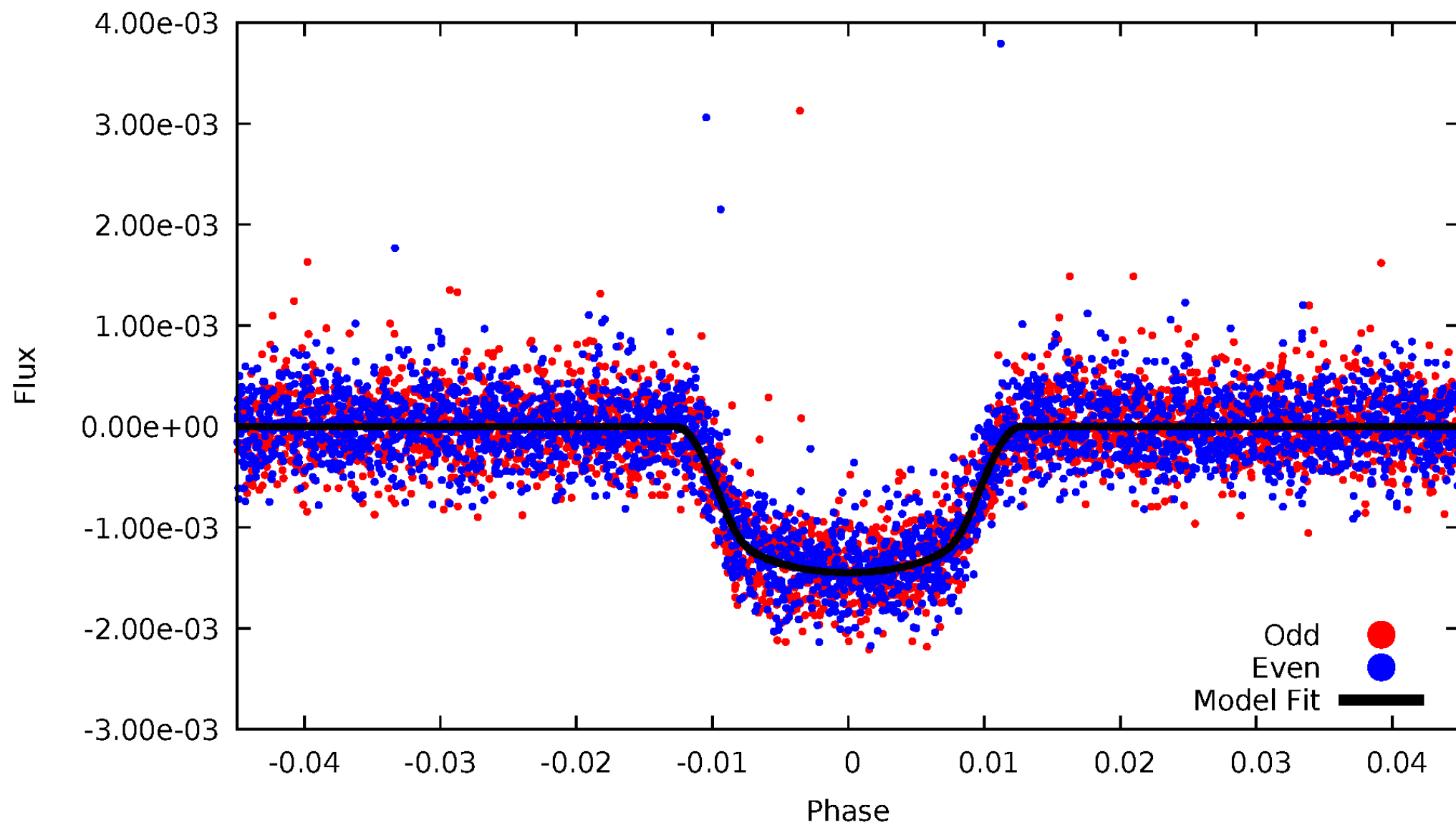


TCE 006383785-01



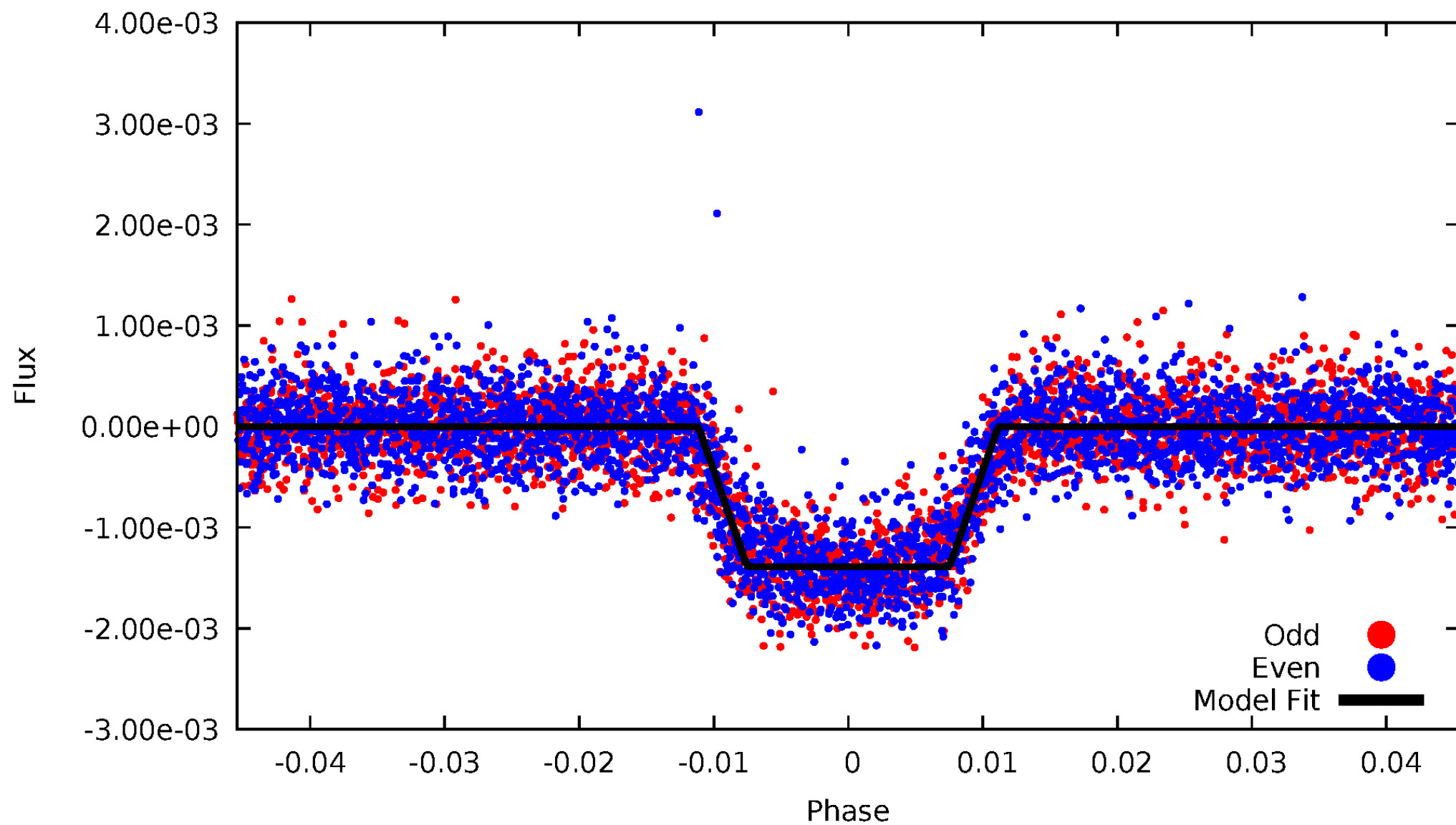
DV Odd/Even

TCE 006383785-01



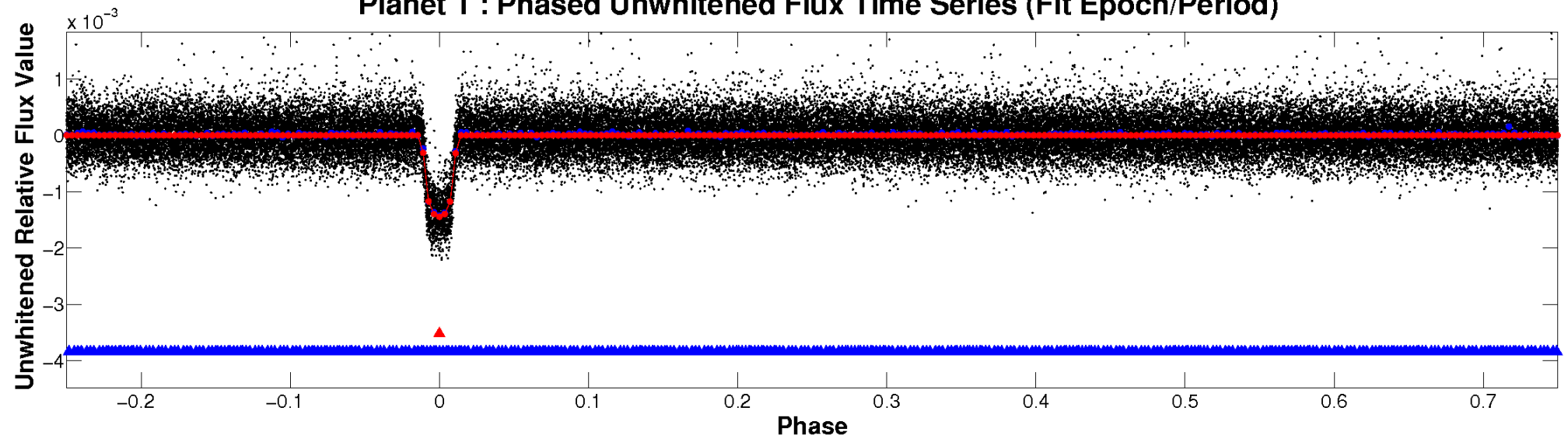
ALT Odd/Even

TCE 006383785-01

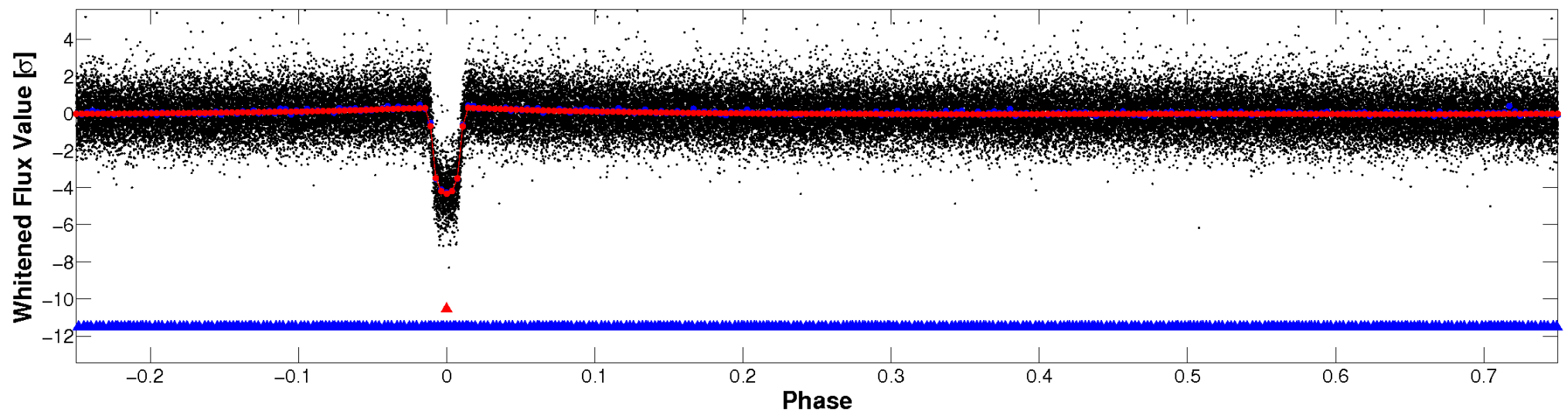


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

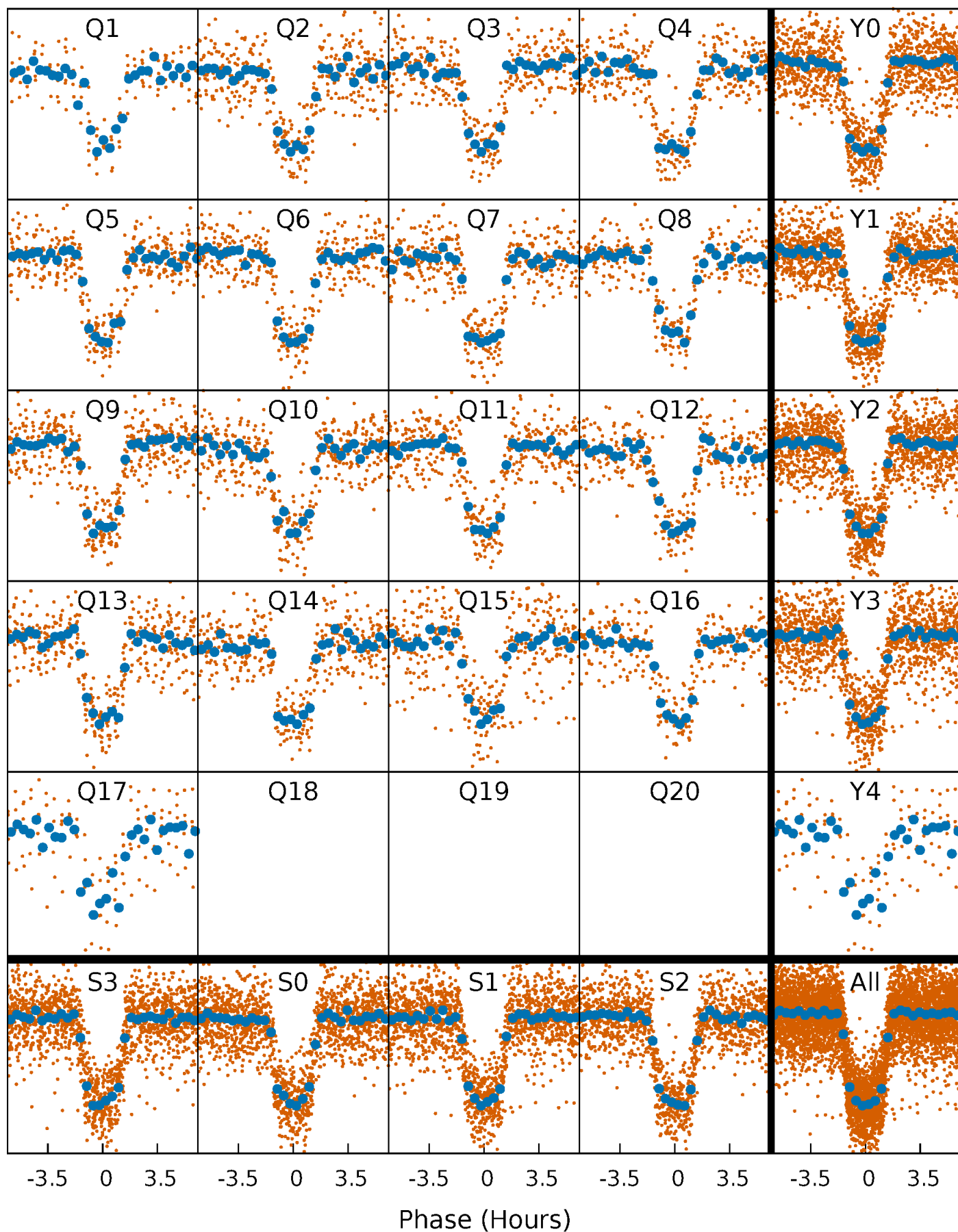


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



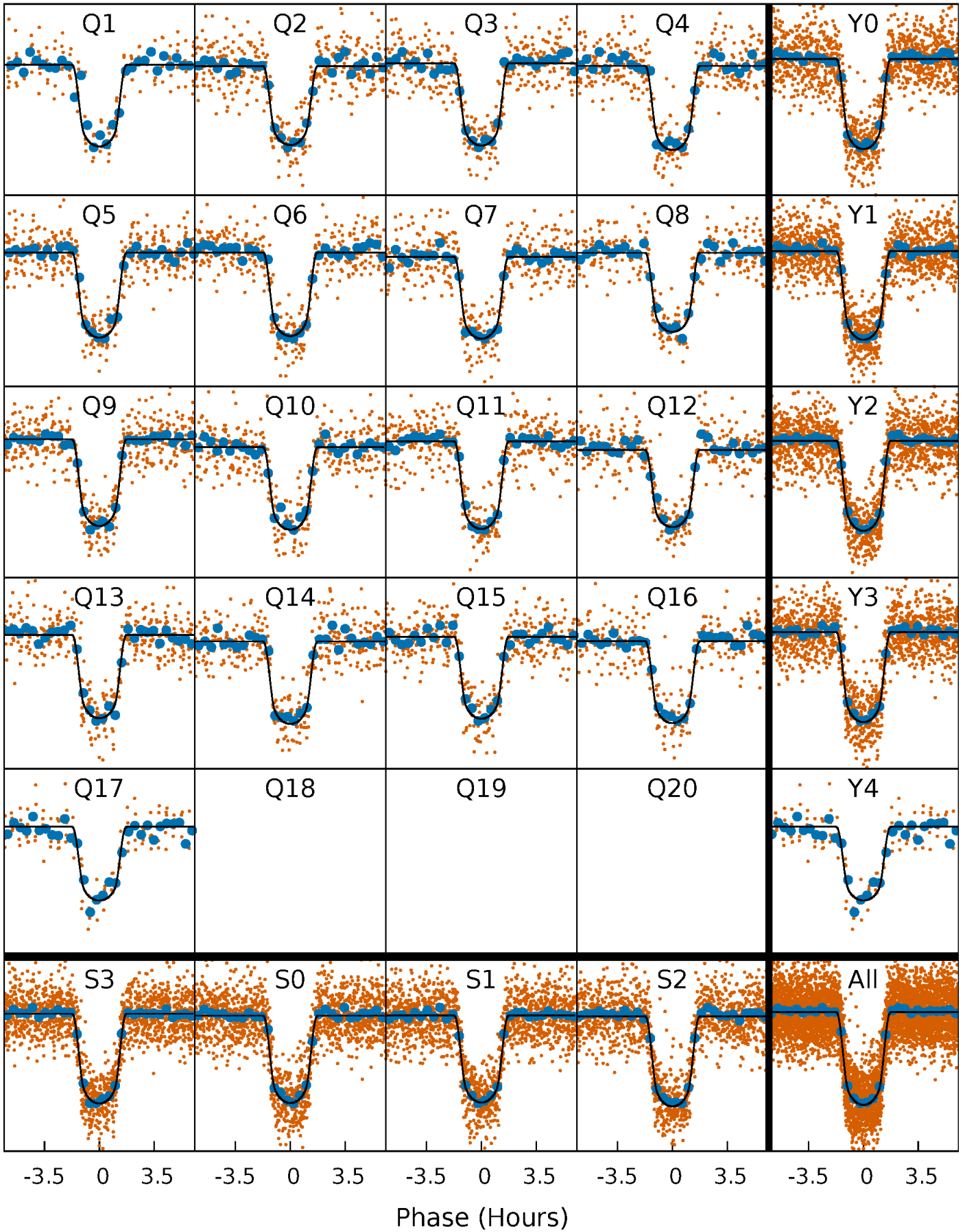
PDC Quarter-Phased Transit Curves

TCE 006383785-01 P= 5.640675 Days $T_0=132.915759$ (BKJD)



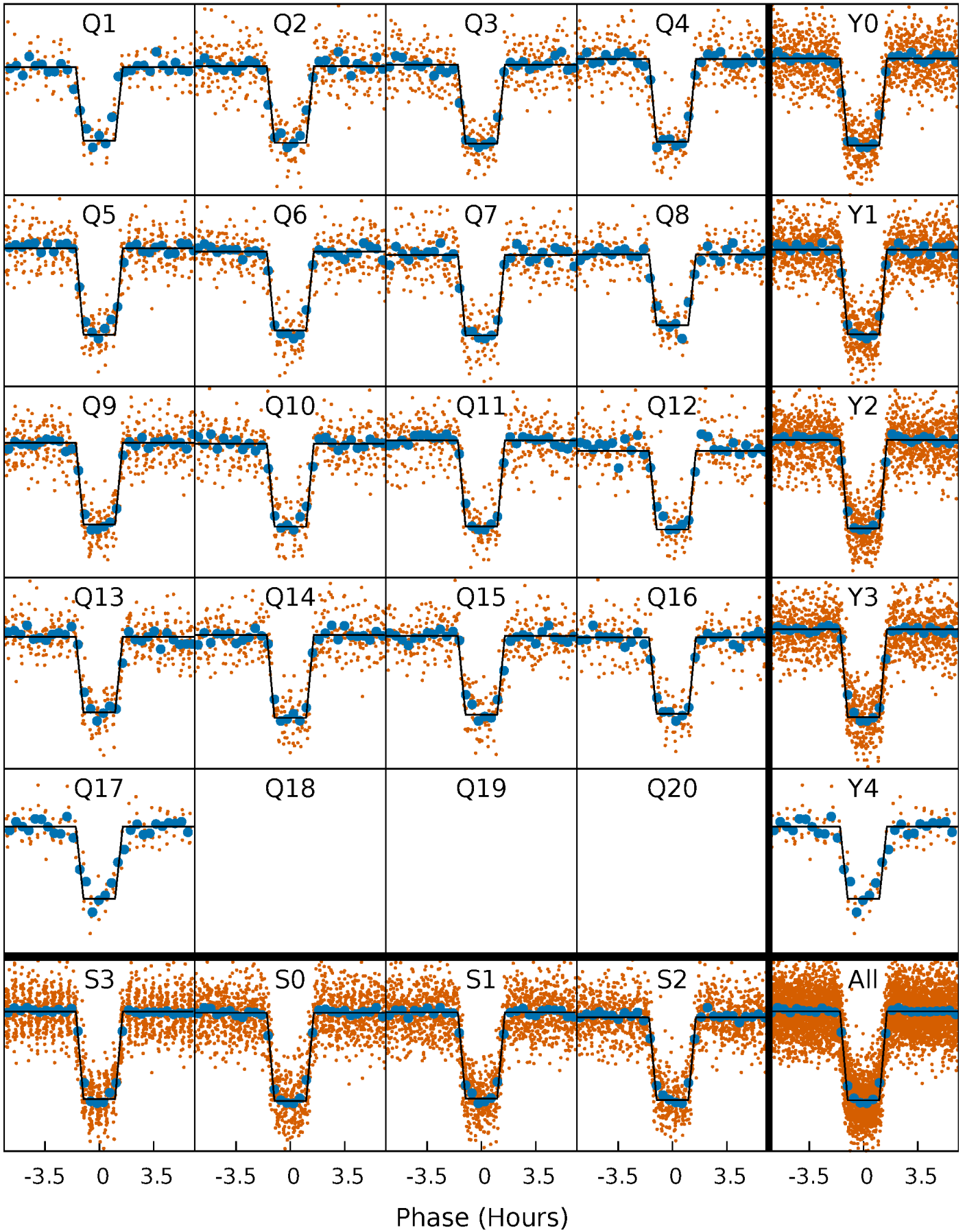
DV Quarter-Phased Transit Curves

TCE 006383785-01 P= 5.640675 Days $T_0=132.915759$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

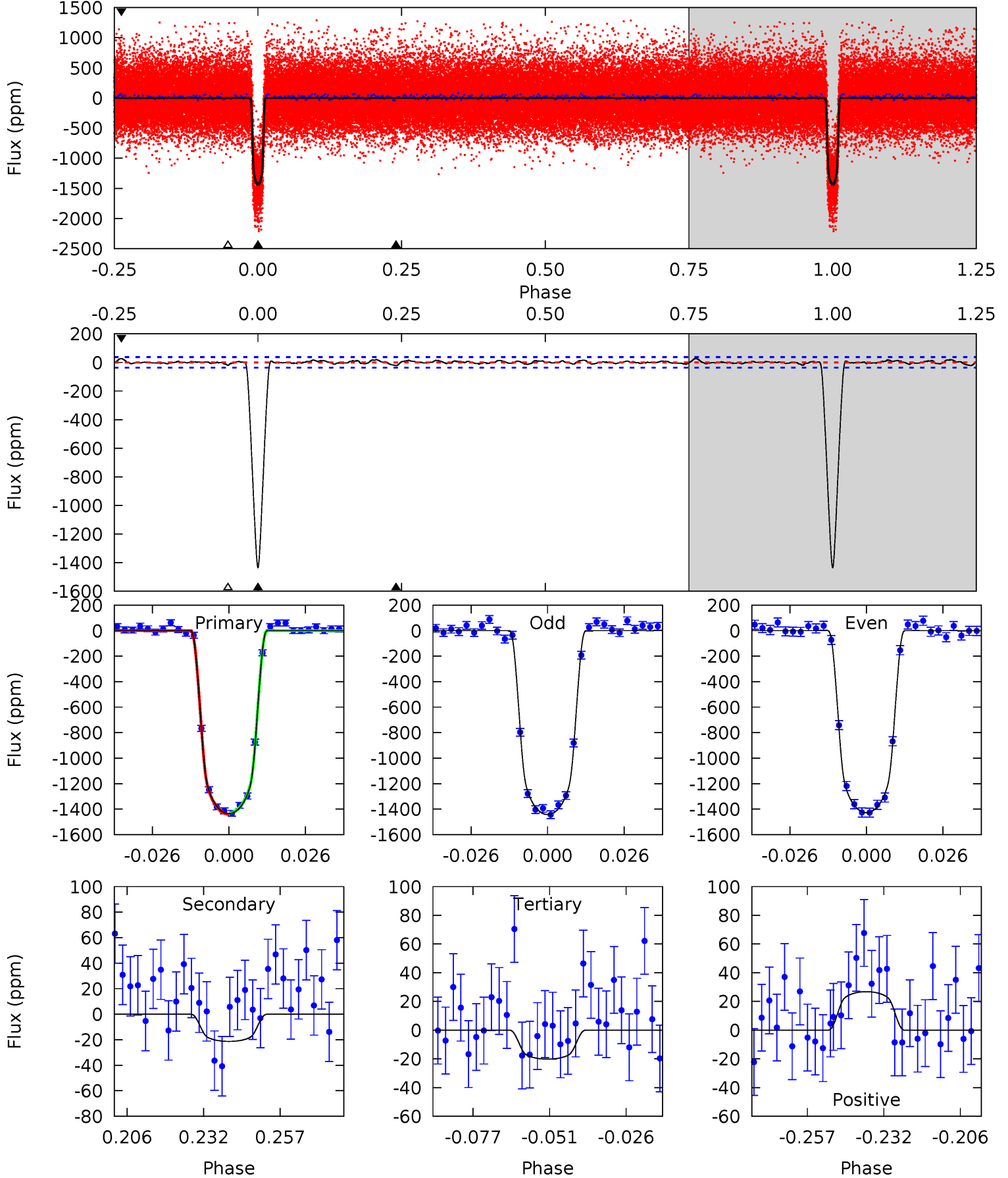
TCE 006383785-01 P= 5.640636 Days $T_0=132.921177$ (BKJD)



DV Model-Shift Uniqueness Test

006383785-01, P = 5.640675 Days, E = 127.275084 Days

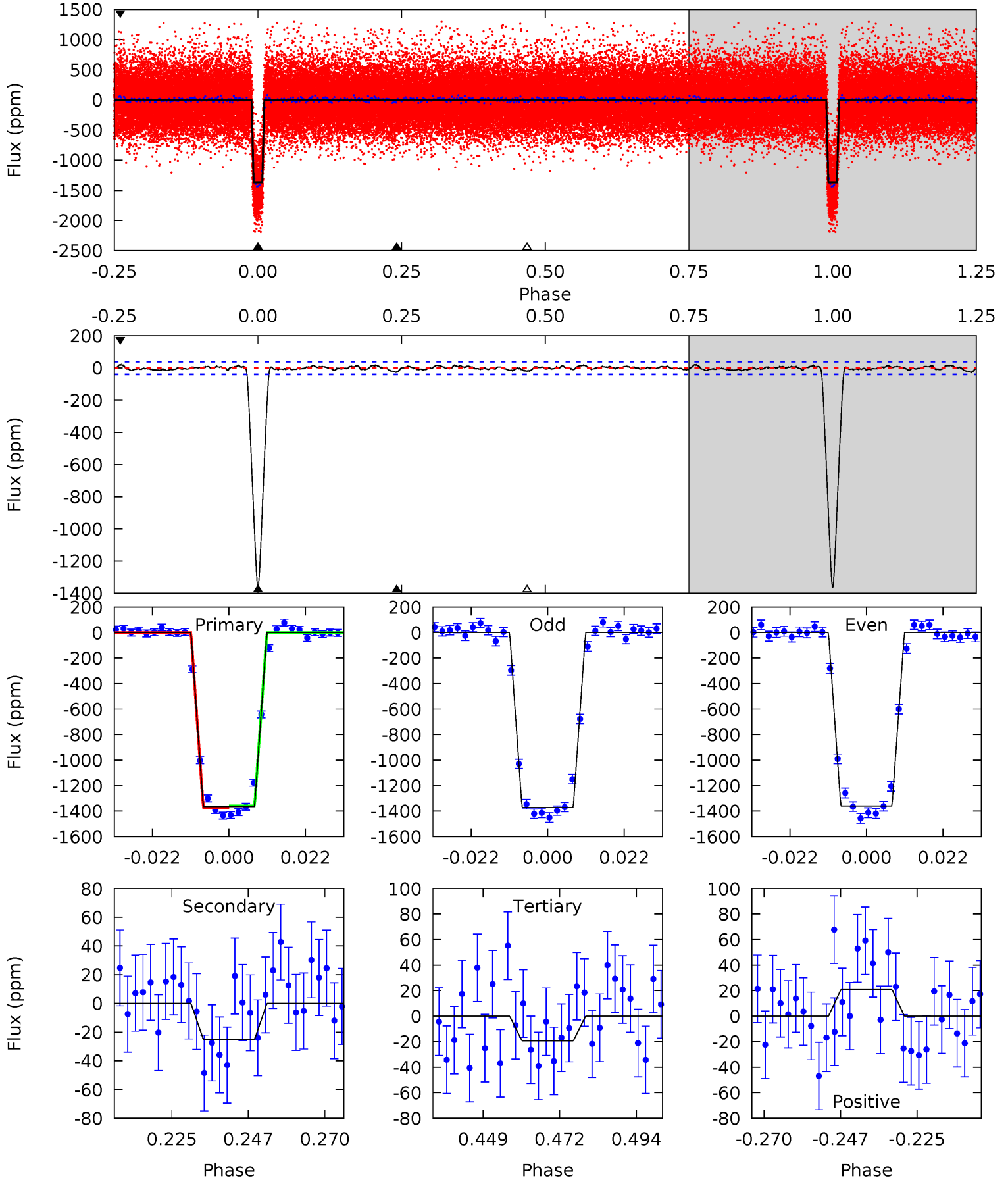
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
188.4	2.80	2.65	3.52	4.84	2.23	0.94	185.8	184.9	0.15	-0.72	0.97	0.99	0.02	0.66



Alt Model-Shift Uniqueness Test

006383785-01, P = 5.640636 Days, E = 127.280541 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
167.5	3.07	2.37	2.56	4.87	2.28	0.98	165.2	165.0	0.70	0.51	0.77	1.00	0.02	0.78



Stellar Parameters For KIC 006383785

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5794^{+78}_{-78}	$4.282^{+0.137}_{-0.112}$	$0.140^{+0.150}_{-0.150}$	$1.216^{+0.201}_{-0.183}$	$1.032^{+0.079}_{-0.063}$	$0.808^{+0.487}_{-0.259}$
	+1%/-1%	+3%/-3%	+107%/-107%	+17%/-15%	+8%/-6%	+60%/-32%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 006383785-01 / KOI 0239.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-21 ± 8	$5.21^{+0.50}_{-0.49}$	1571^{+69}_{-72}	2686^{+130}_{-194}	$1.734^{+0.667}_{-0.674}$
Alt.	-25 ± 8	$4.94^{+0.49}_{-0.47}$	1570^{+72}_{-74}	2796^{+128}_{-166}	$2.214^{+0.926}_{-0.753}$

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

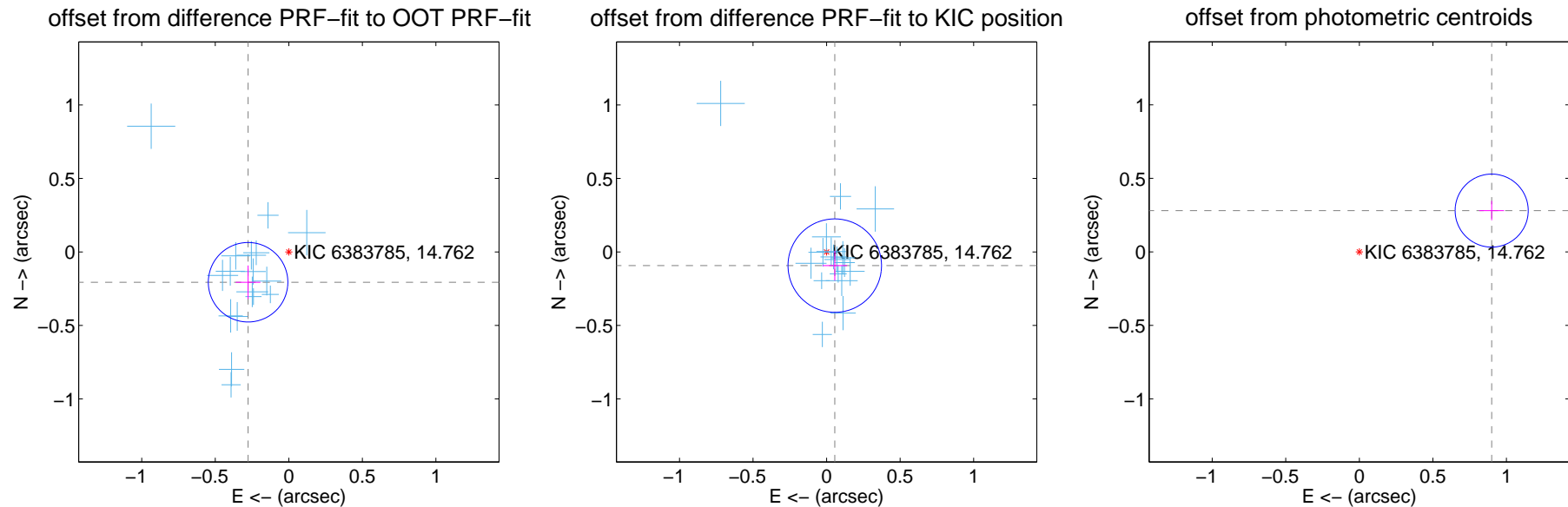
DV Centroid Data

Supplemental centroid analysis for 006383785-01. Kepler magnitude: 14.76. Transit SNR 134.65

There are 17 quarters with good PRF difference image offsets

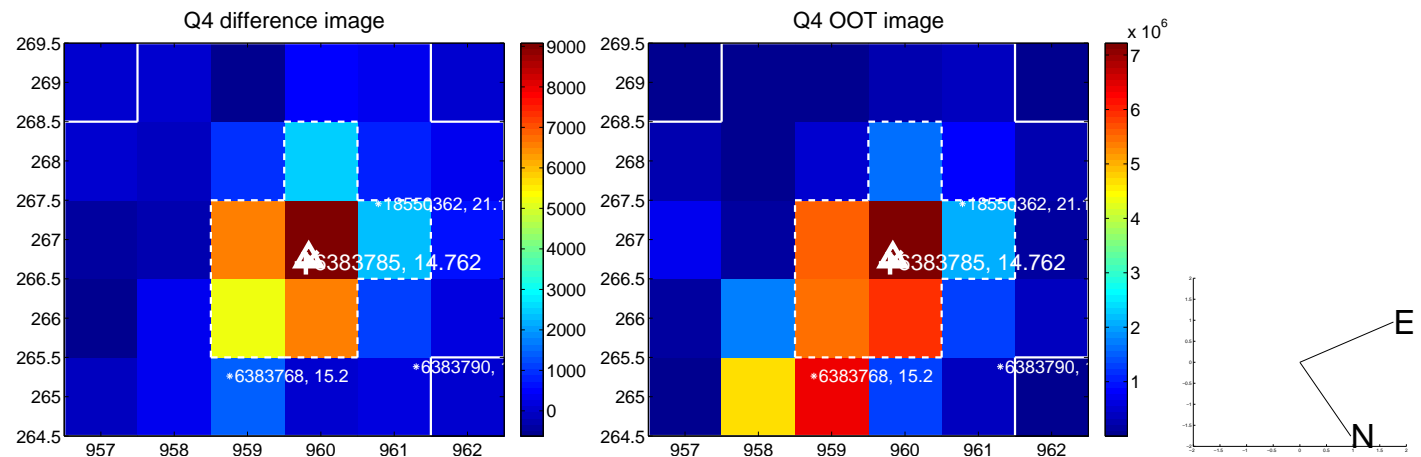
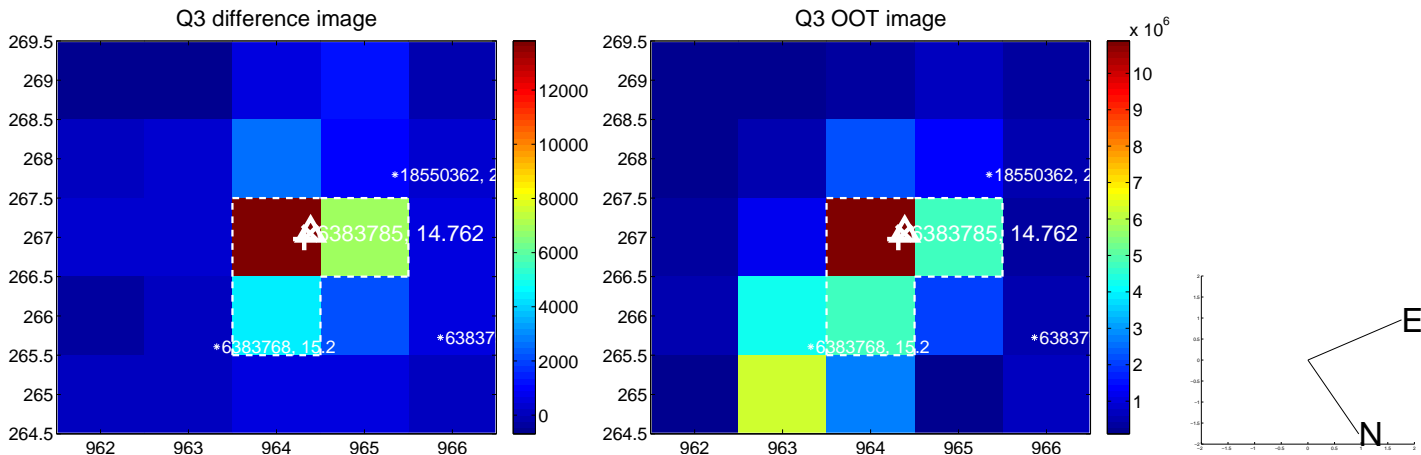
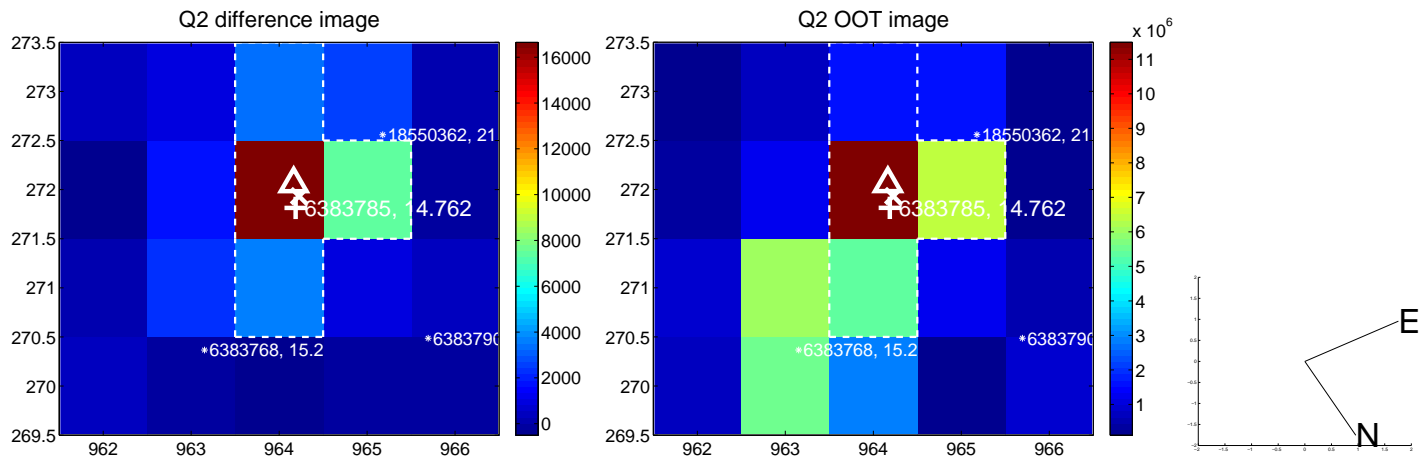
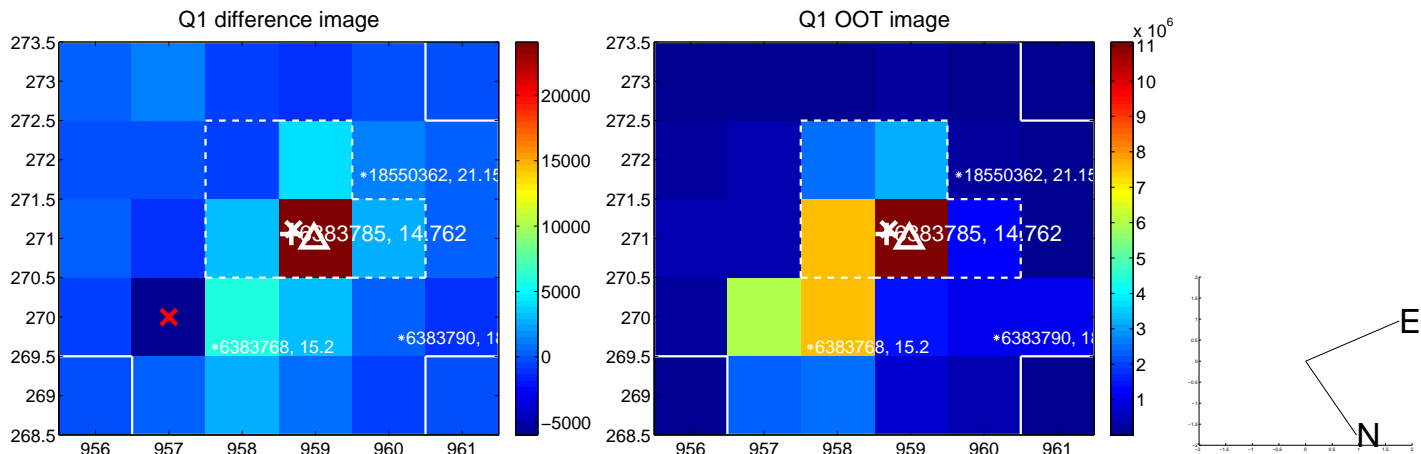
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.345 ± 0.090	3.83	0.277 ± 0.084	-0.206 ± 0.114
PRF-fit source offset from KIC position	0.109 ± 0.106	1.02	-0.056 ± 0.083	-0.093 ± 0.102
photometric centroid source offset	0.94 ± 0.08	11.38	-0.90 ± 0.08	0.28 ± 0.07

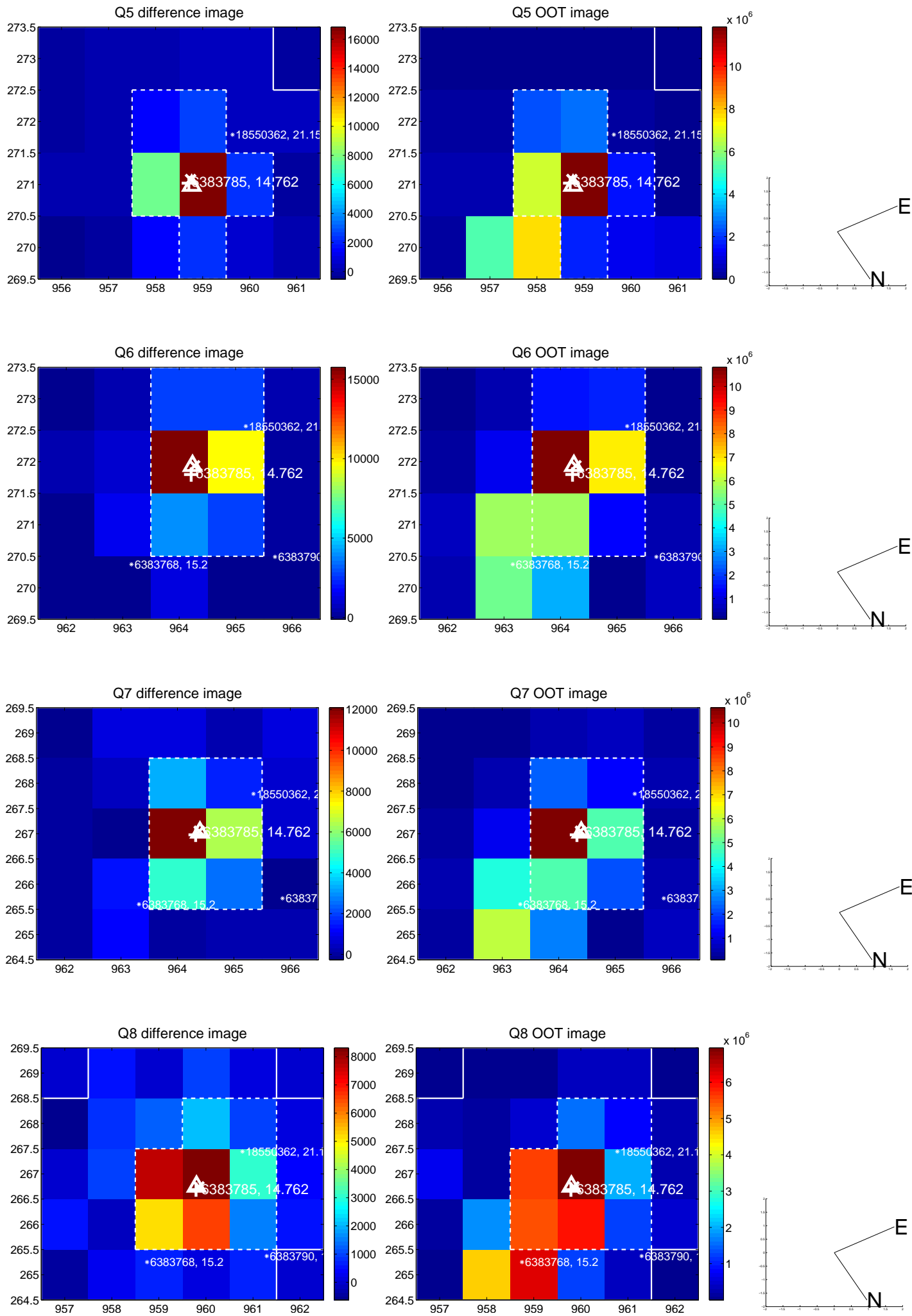


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

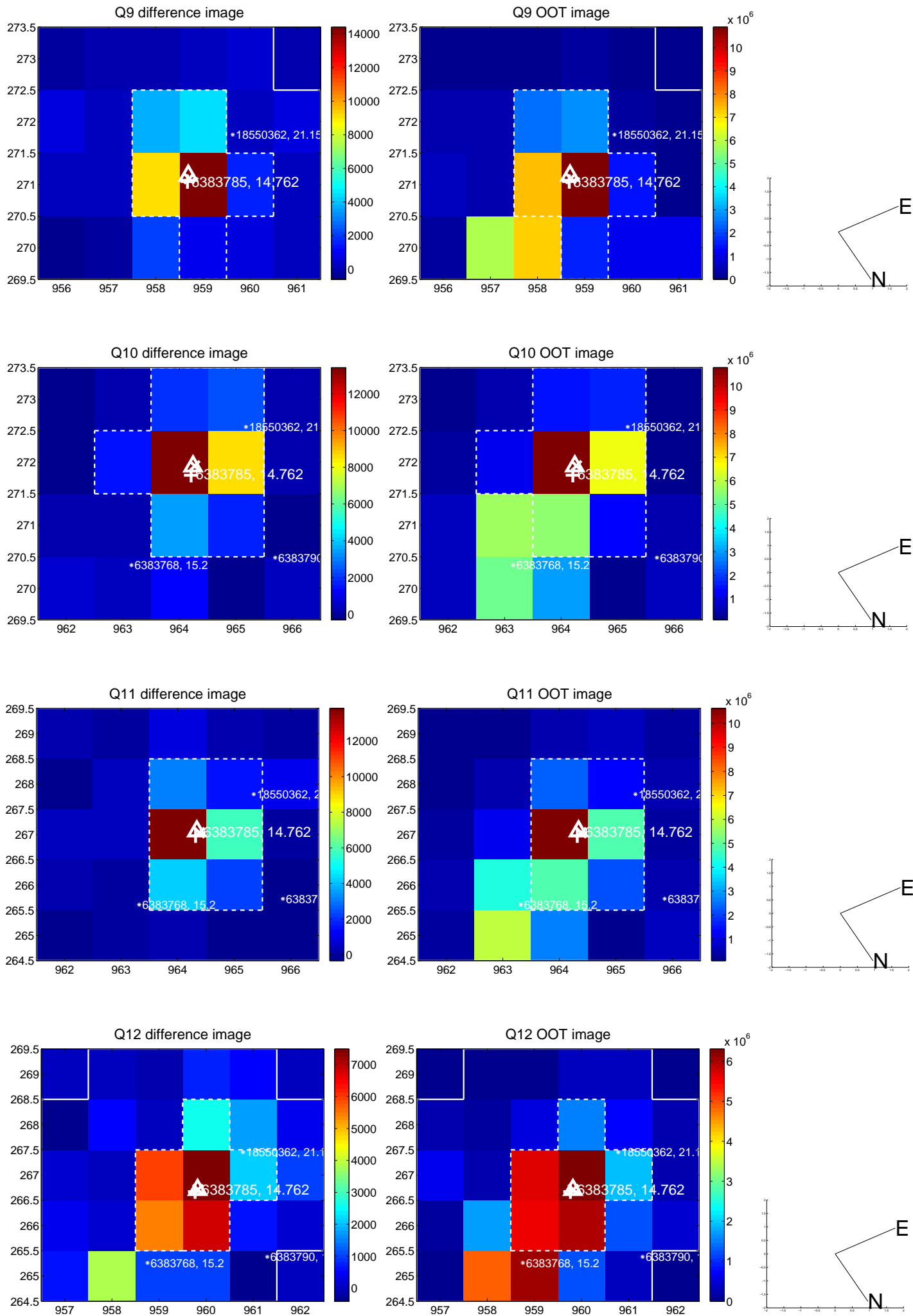
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



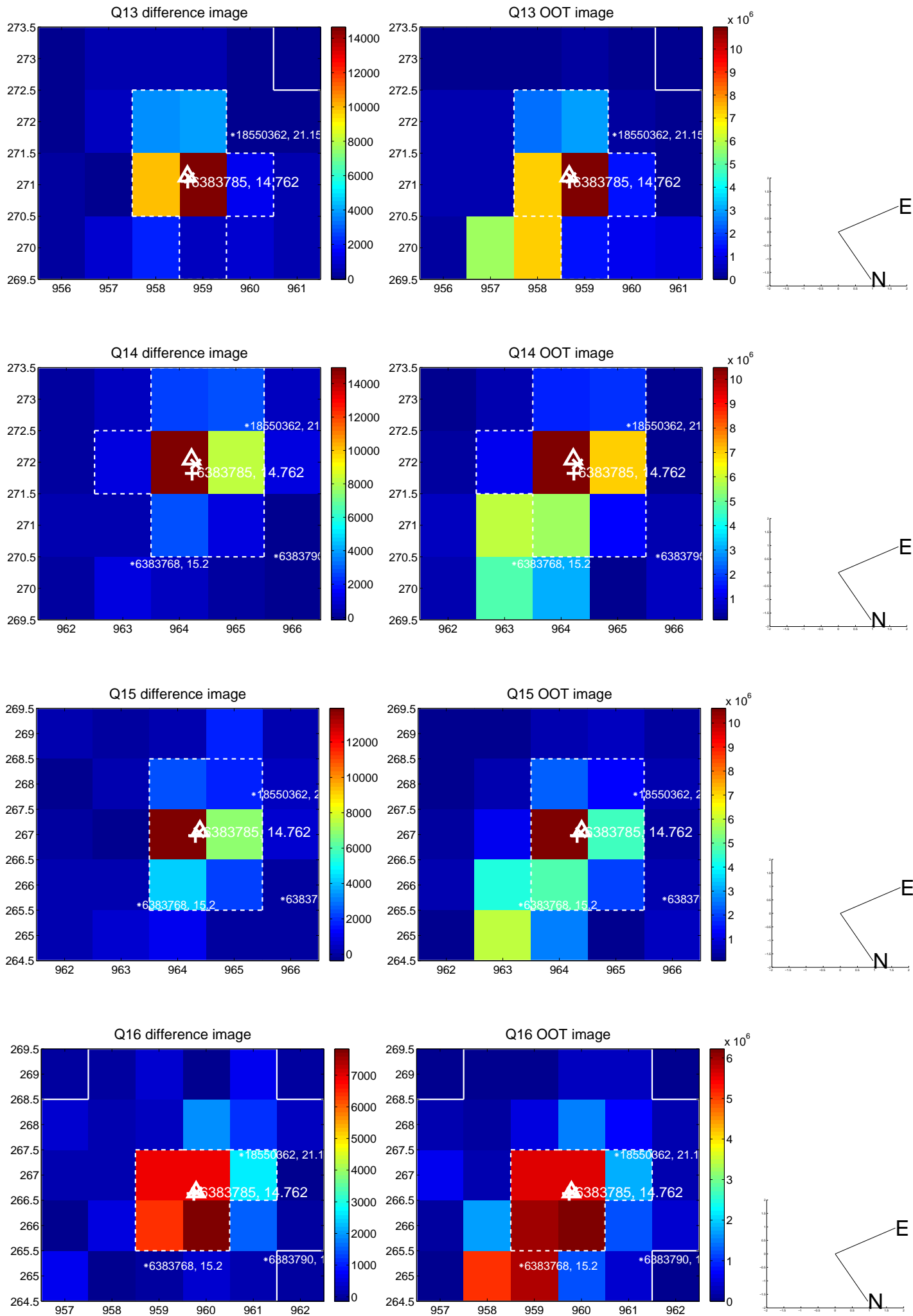
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



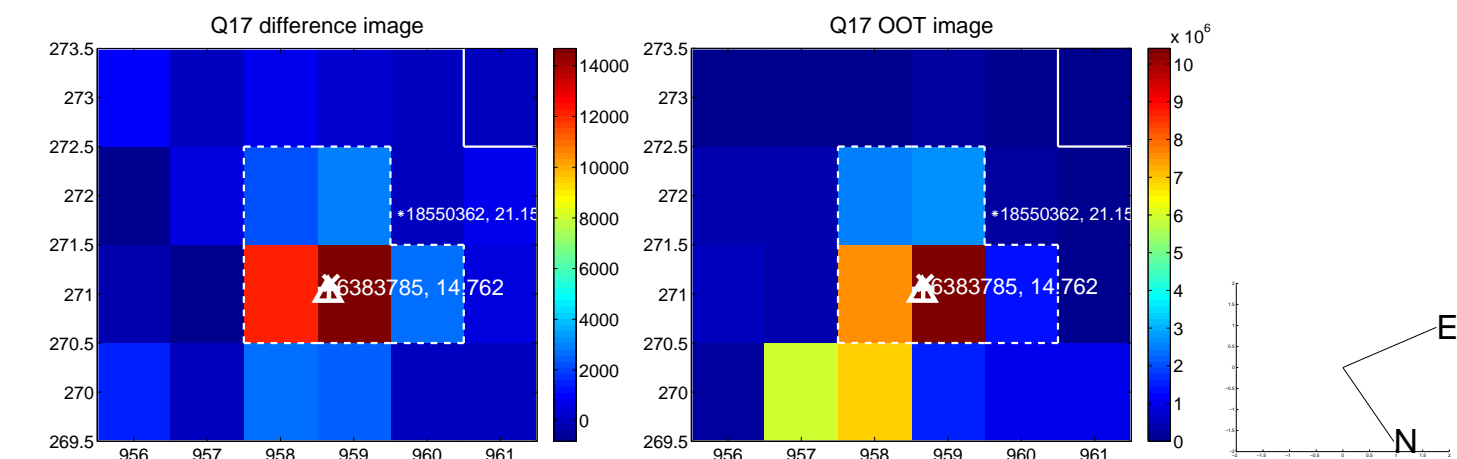
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



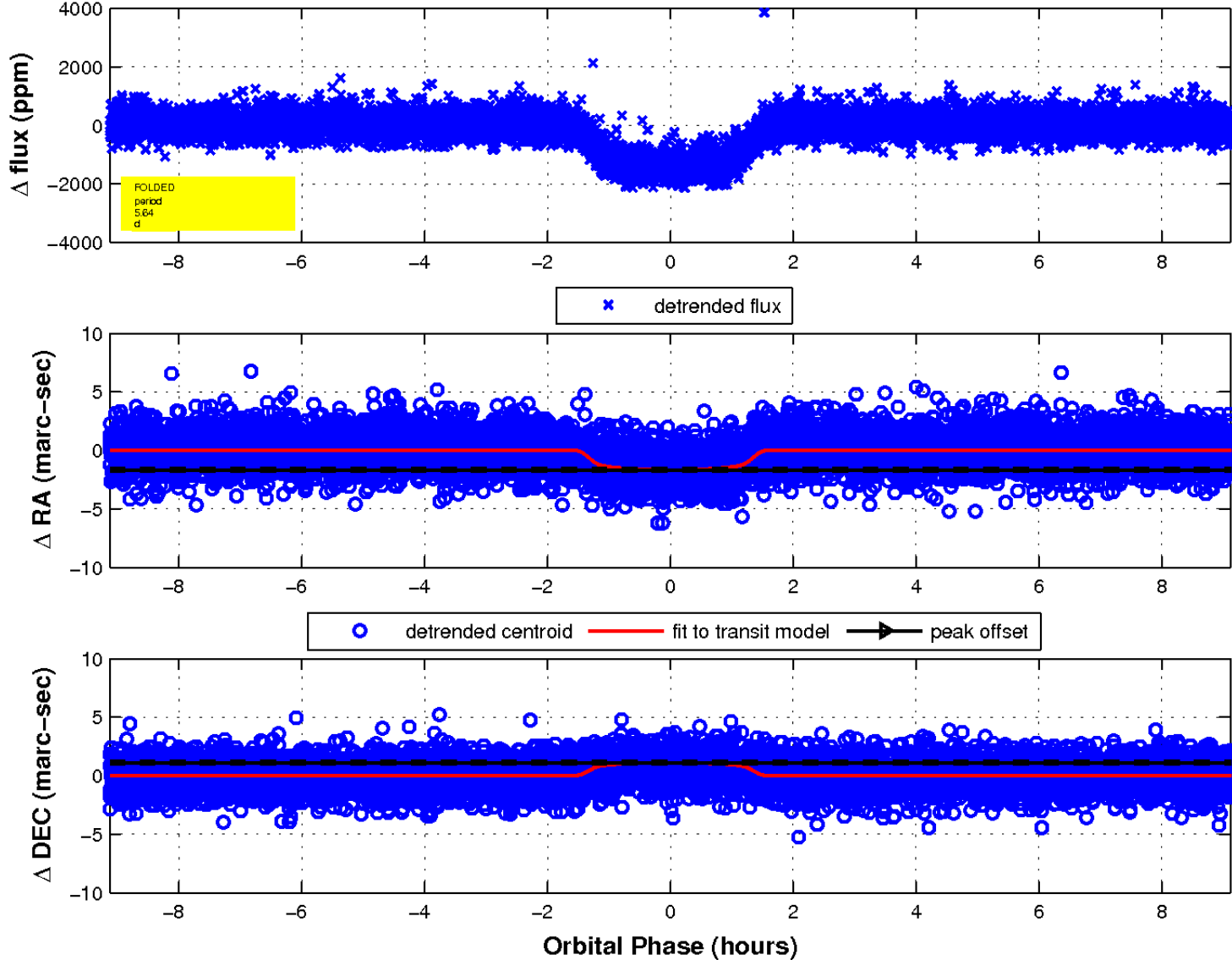
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

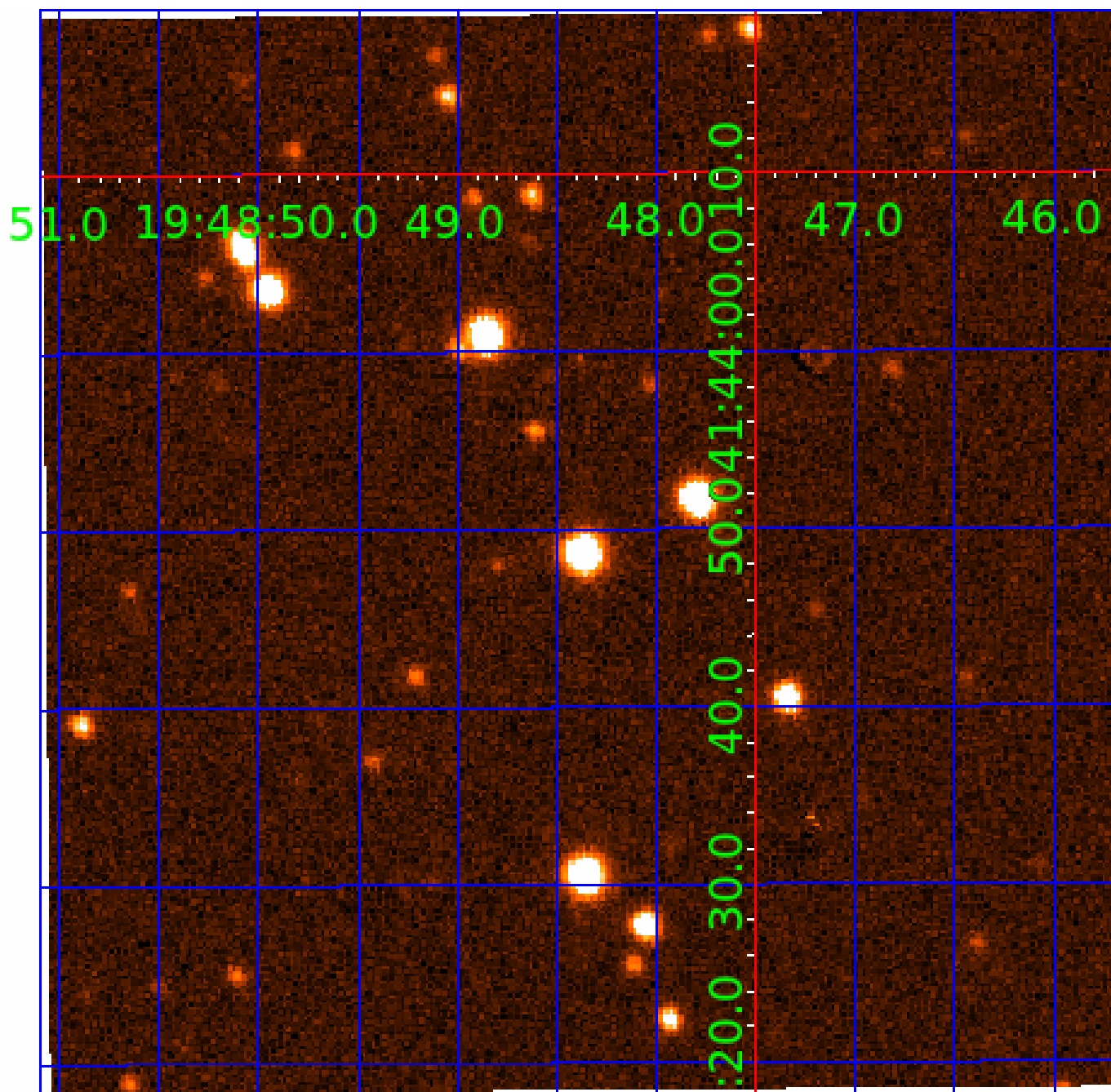


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 006383785

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
006383785-01	OBS	0239.01	5.640675	132.915759	1448.4	3.041	127.5	134.7	1.22	5794	5.21	379.89
006383785-02	OBS	0239.02	3.622764	132.990546	169.1	2.847	17.4	18.9	1.22	5794	1.88	685.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006383785-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
006383785-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

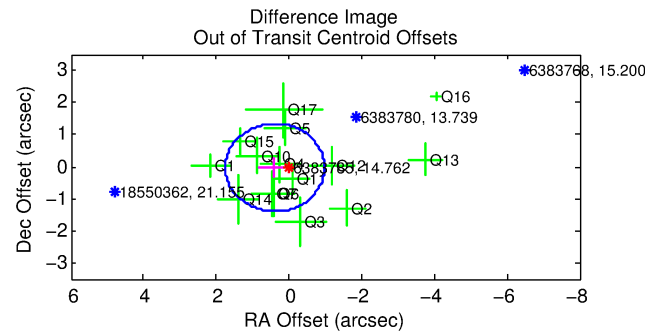
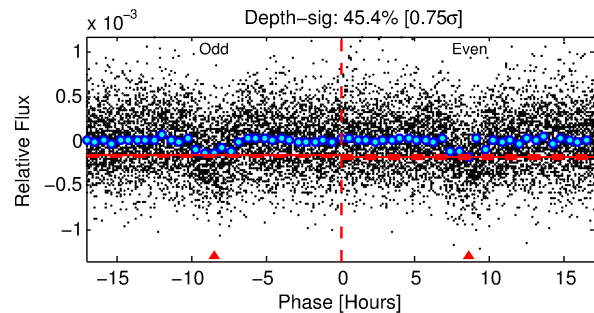
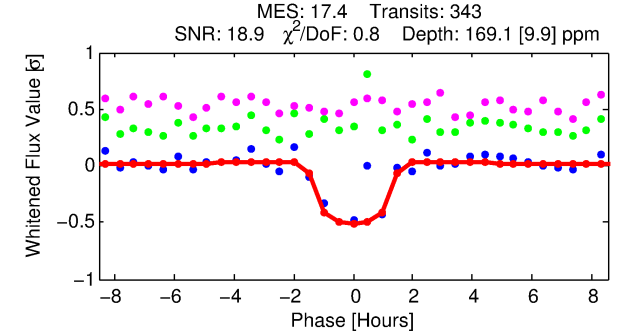
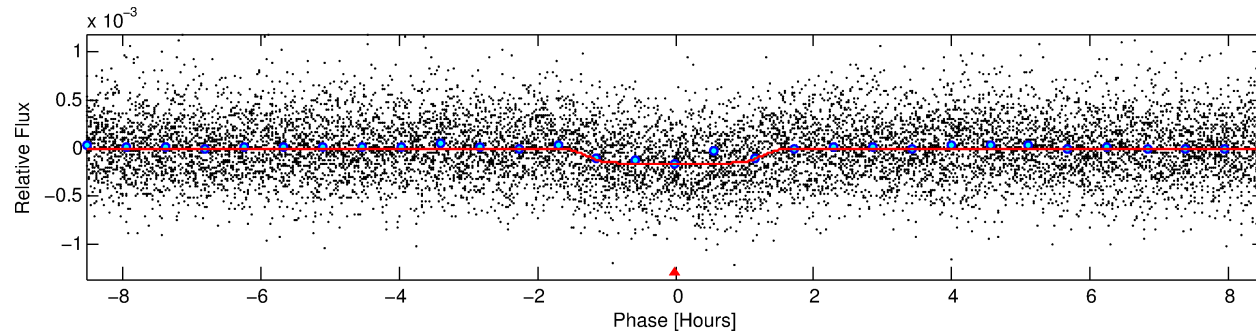
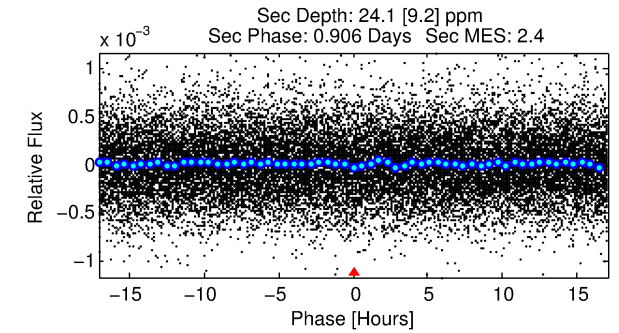
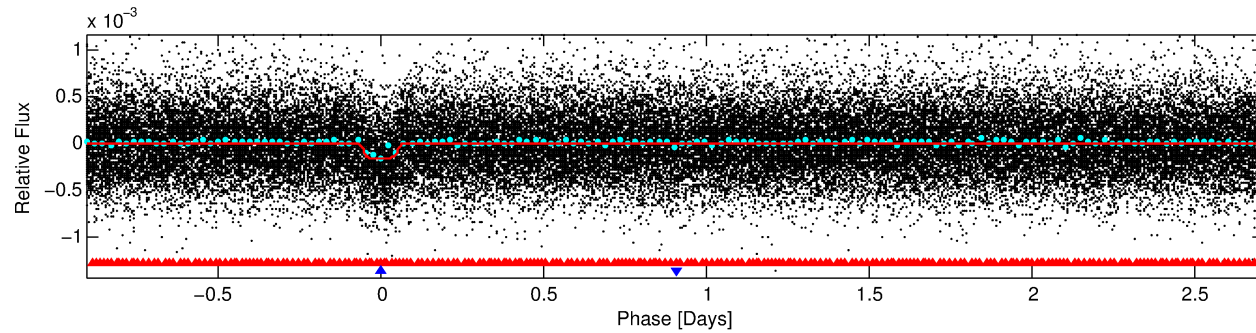
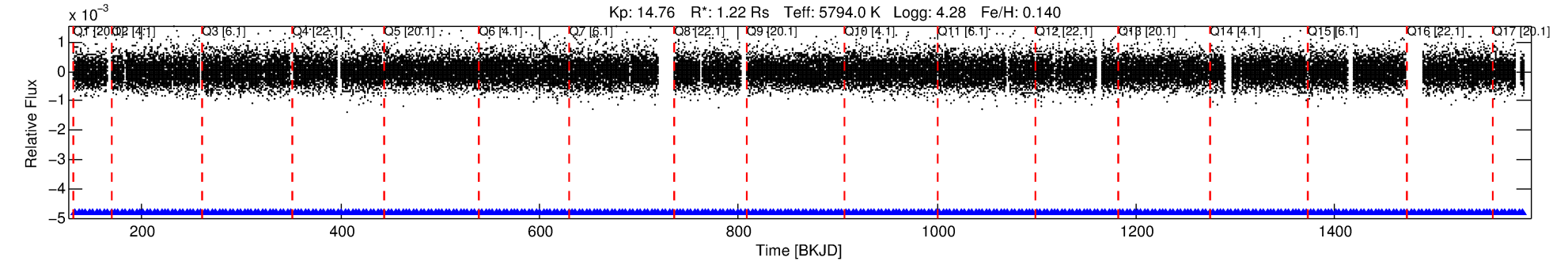
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006383785-02

No Significant Match Found

DV One-Page Summary

KIC: 6383785 Candidate: 2 of 2 Period: 3.623 d
KOI: K00239.02 Corr: 0.785



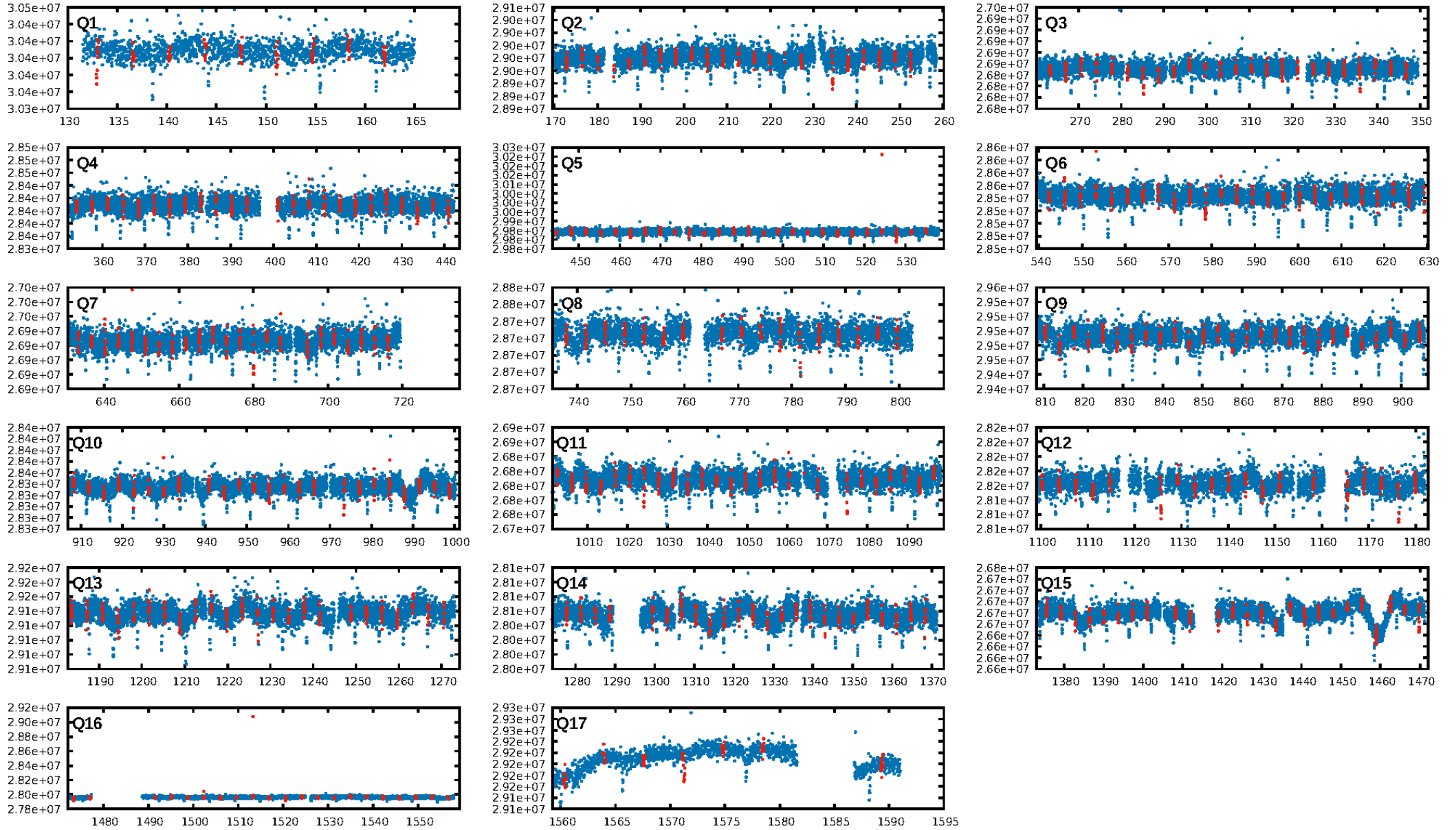
DV Fit Results:

Period = 3.62276 [0.00001] d
Epoch = 132.9905 [0.0024] BKJD
Rp/R* = 0.0142 [0.0049]
a/R* = 4.69 [7.33]
b = 0.90 [0.36]
Seff = 685.56 [166.90]
Teff = 1305 [79] K
Rp = 1.88 [0.72] Re
a = 0.0467 [0.0071] AU
Ag = 8.17 [6.75] [1.06σ]
Teffp = 3411 [676] K [3.10σ]

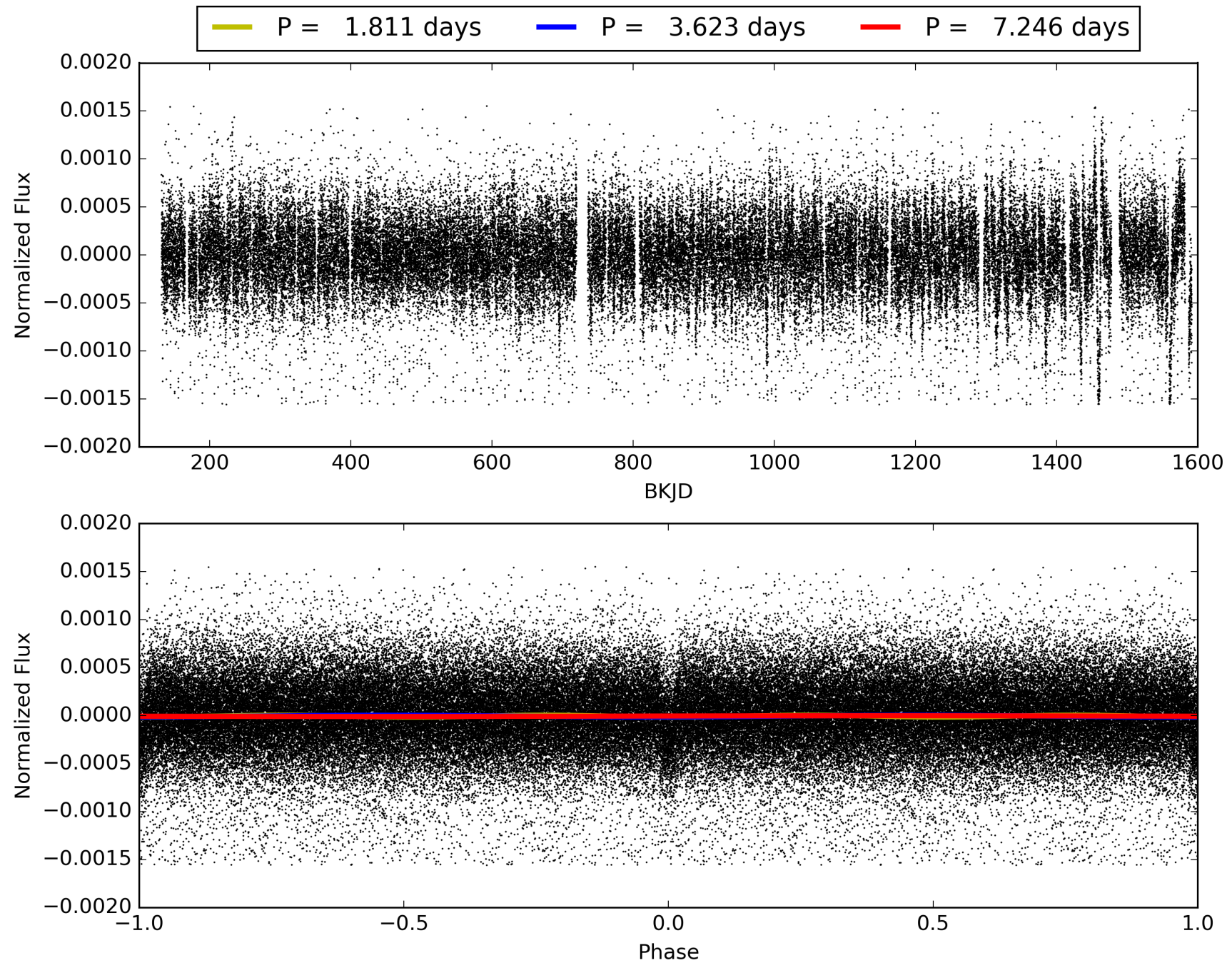
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [11.63σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.03e-67
RollingBand-fgt: 1.00 [329/329]
GhostDiagnostic-chr: 1.949
Centroid-sig: 0.0%
Centroid-so: 0.144 arcsec [0.25σ]
OotOffset-rm: 0.398 arcsec [0.87σ]
KicOffset-rm: 0.134 arcsec [0.49σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 0.80 [12/15]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006383785-02, PDC Light Curves

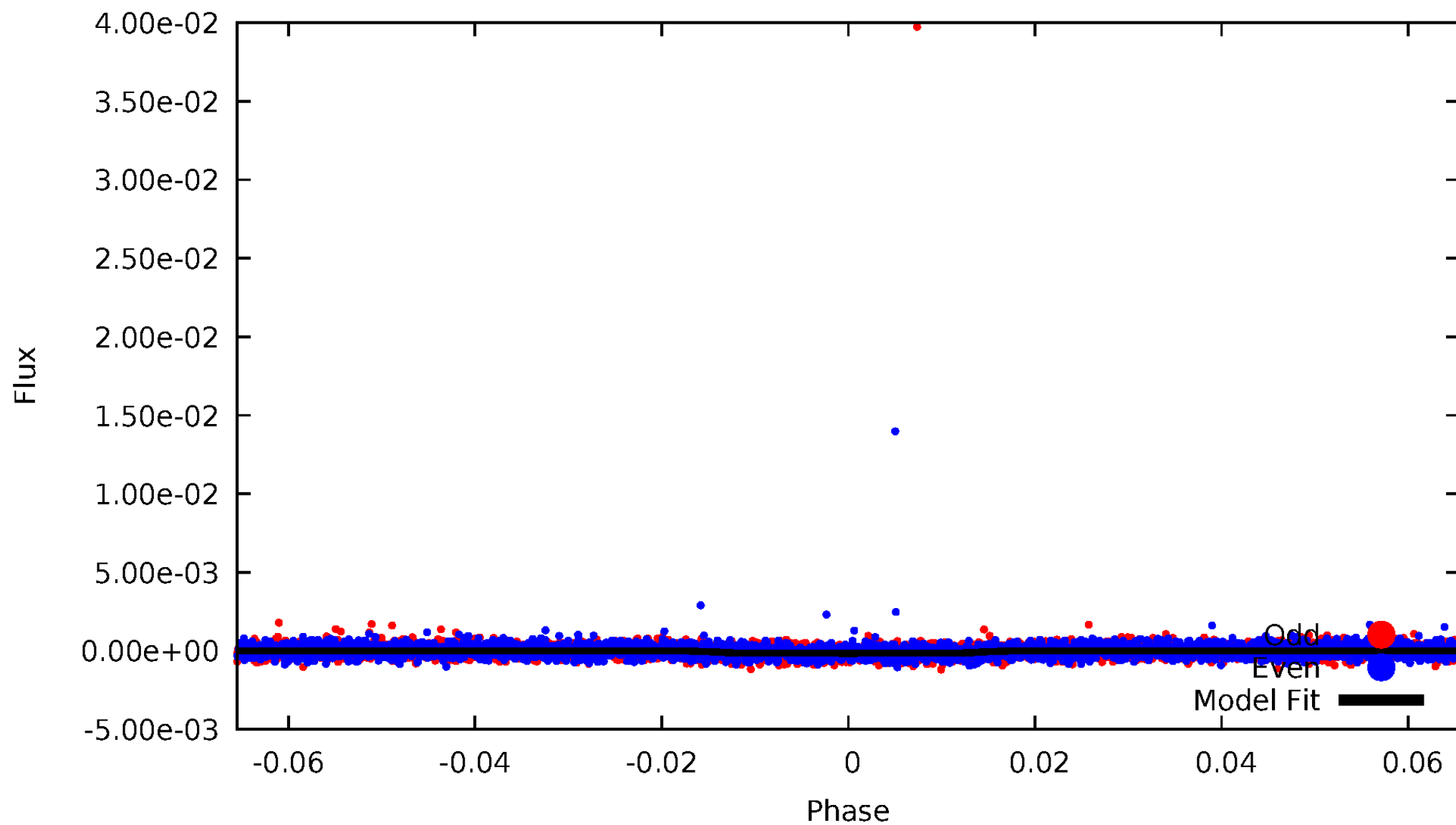


TCE 006383785-02



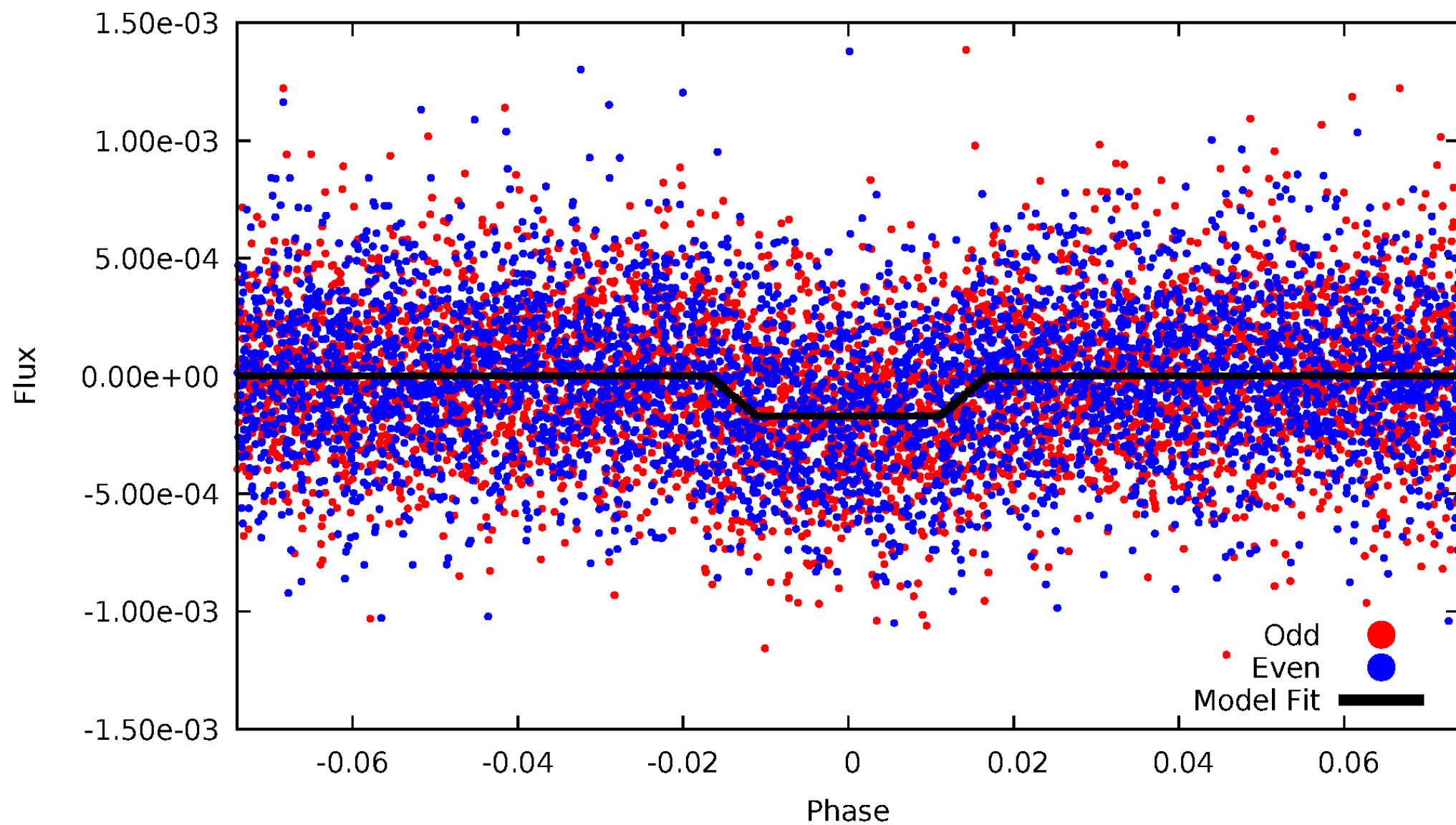
DV Odd/Even

TCE 006383785-02



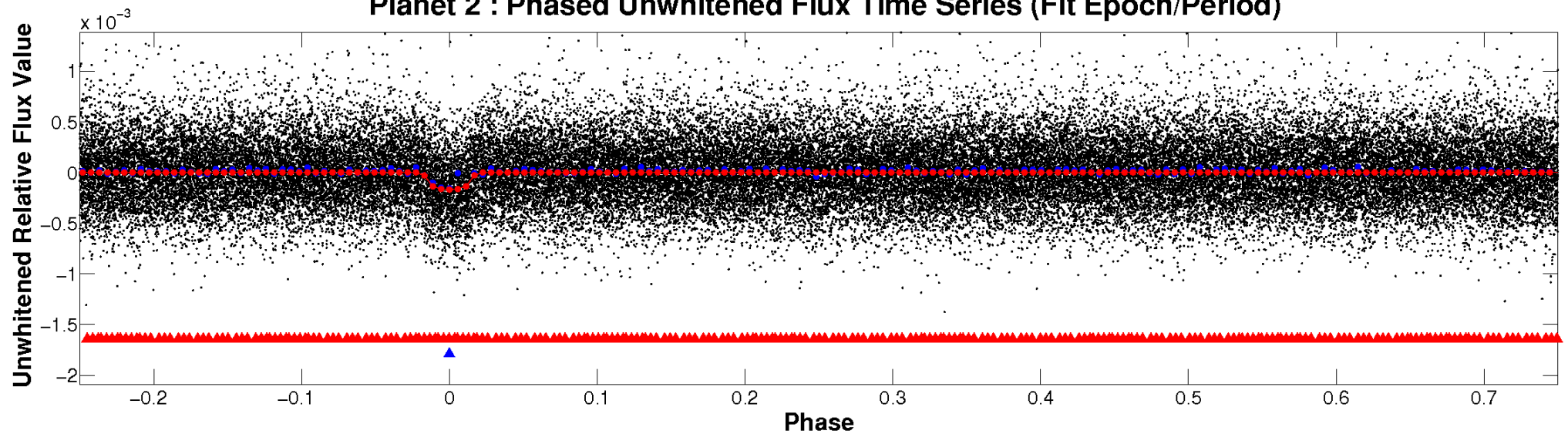
ALT Odd/Even

TCE 006383785-02

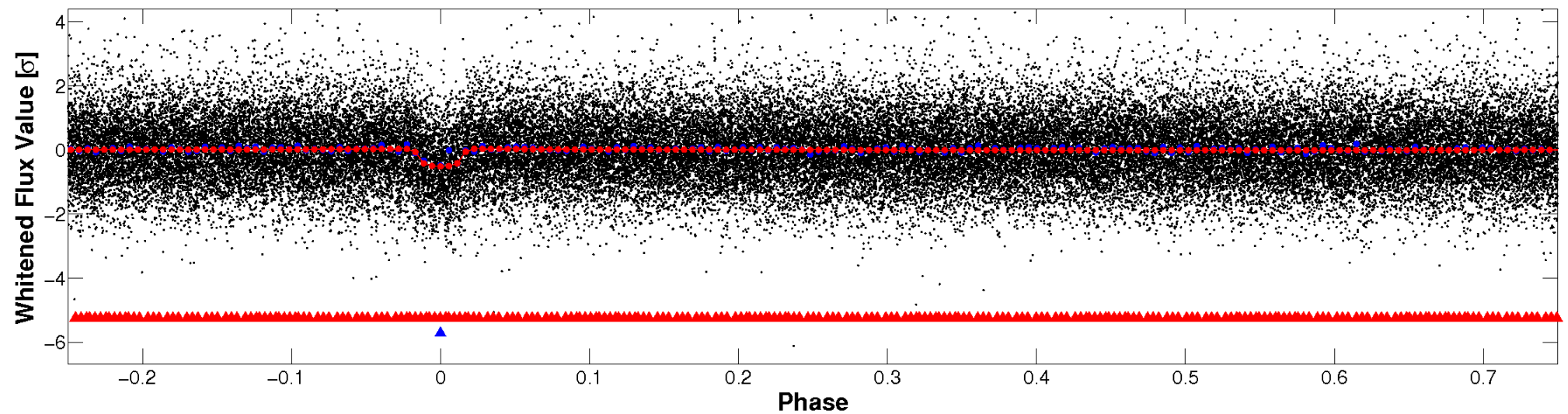


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

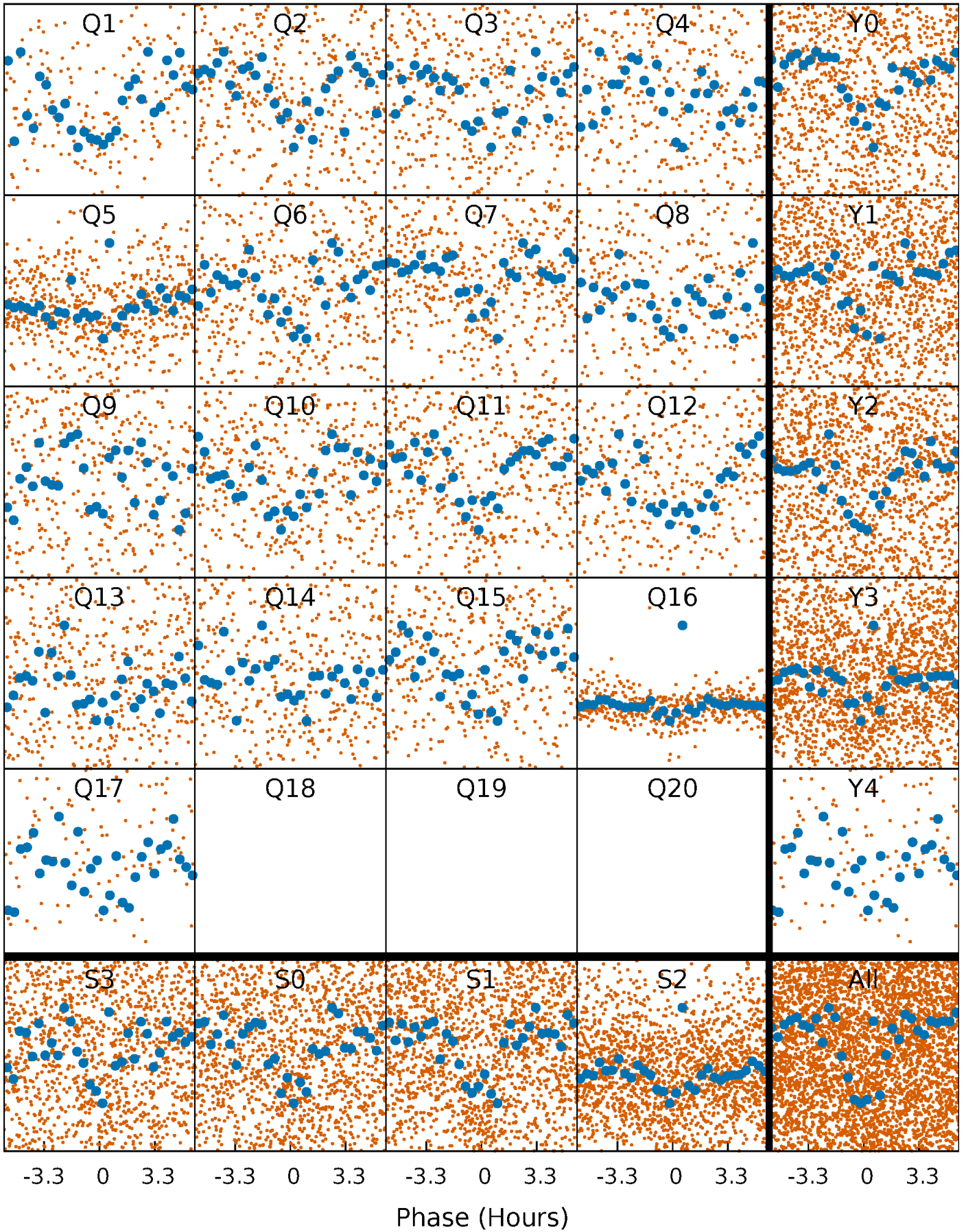


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



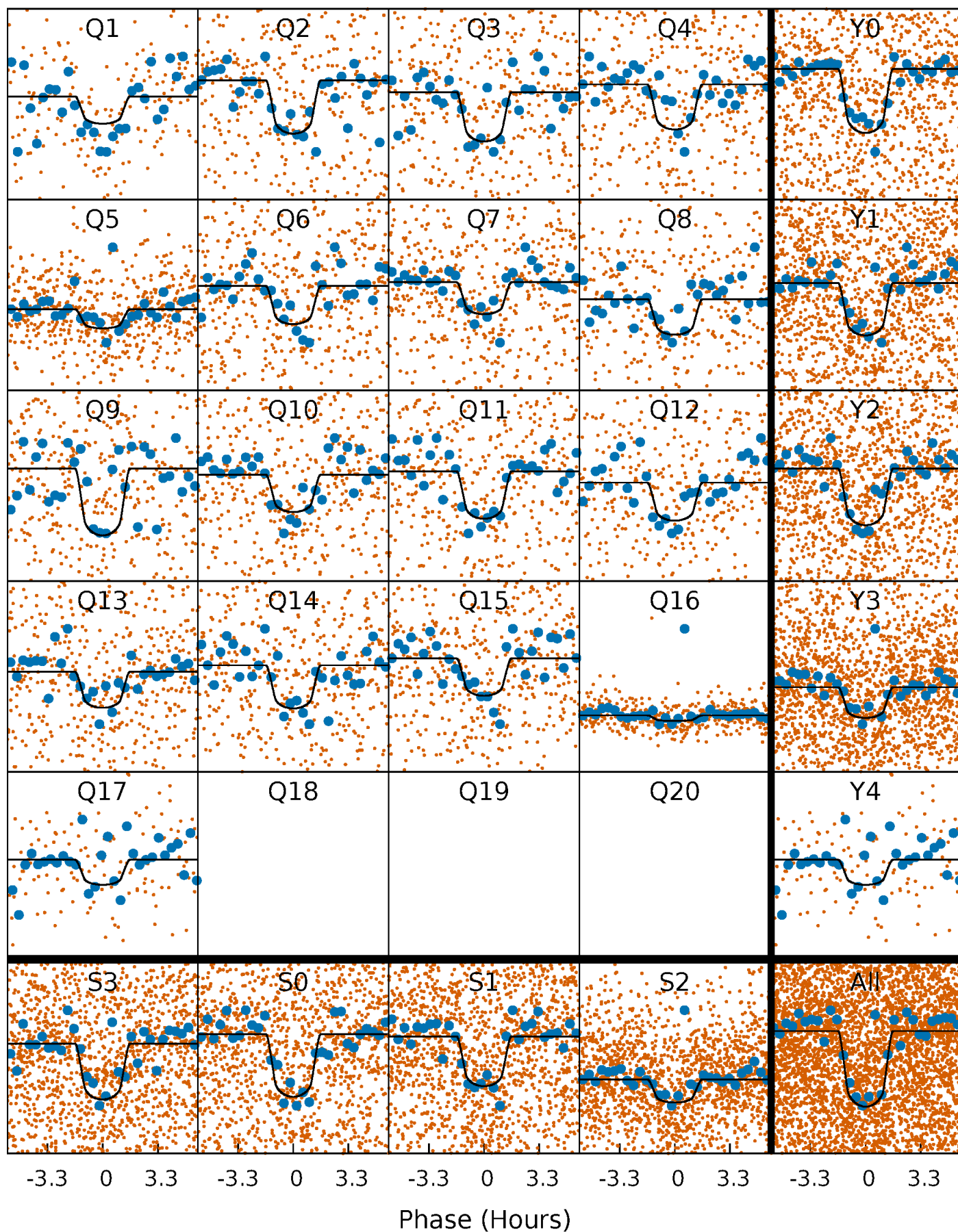
PDC Quarter-Phased Transit Curves

TCE 006383785-02 P= 3.622764 Days $T_0=132.990546$ (BKJD)



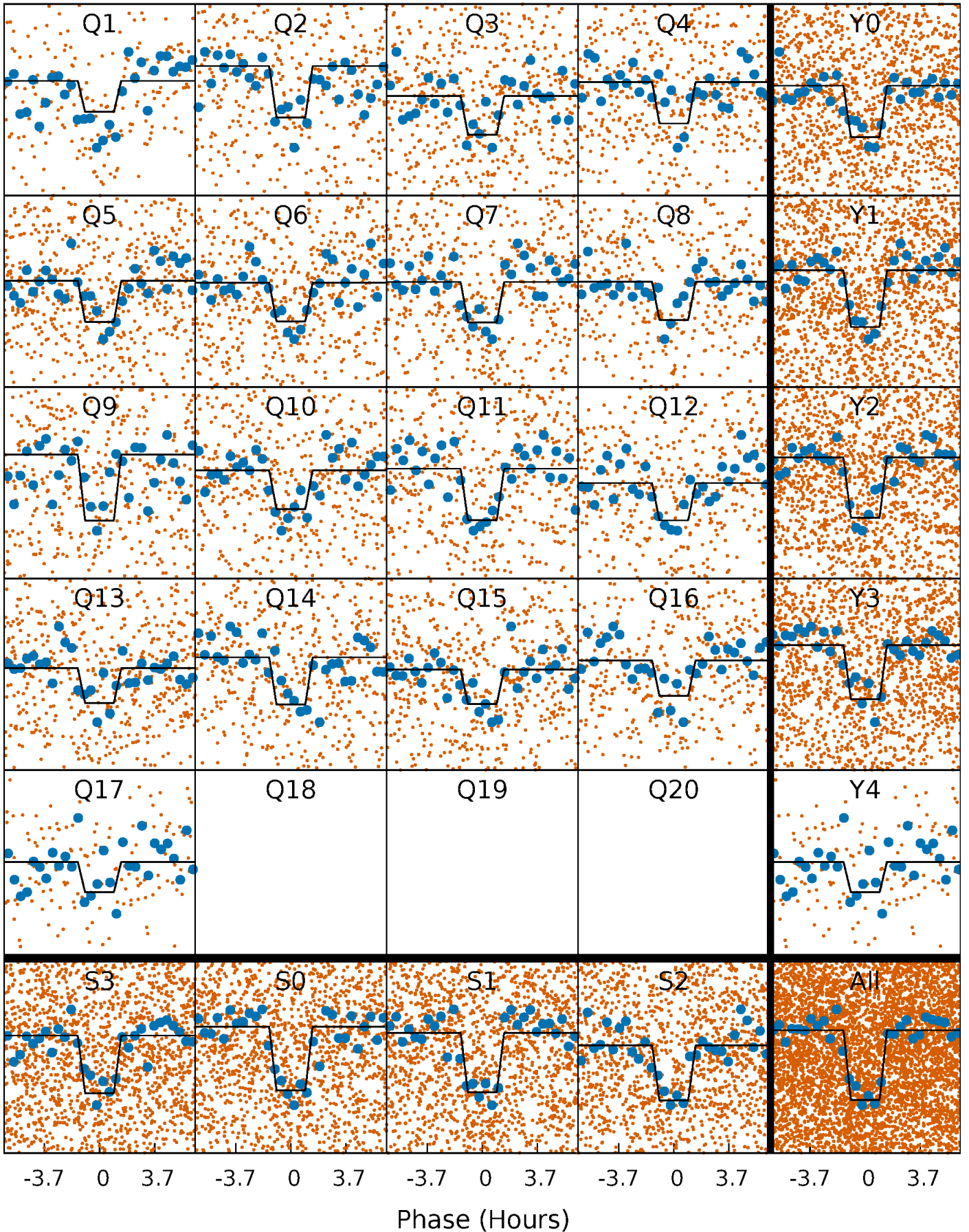
DV Quarter-Phased Transit Curves

TCE 006383785-02 P= 3.622764 Days $T_0=132.990546$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

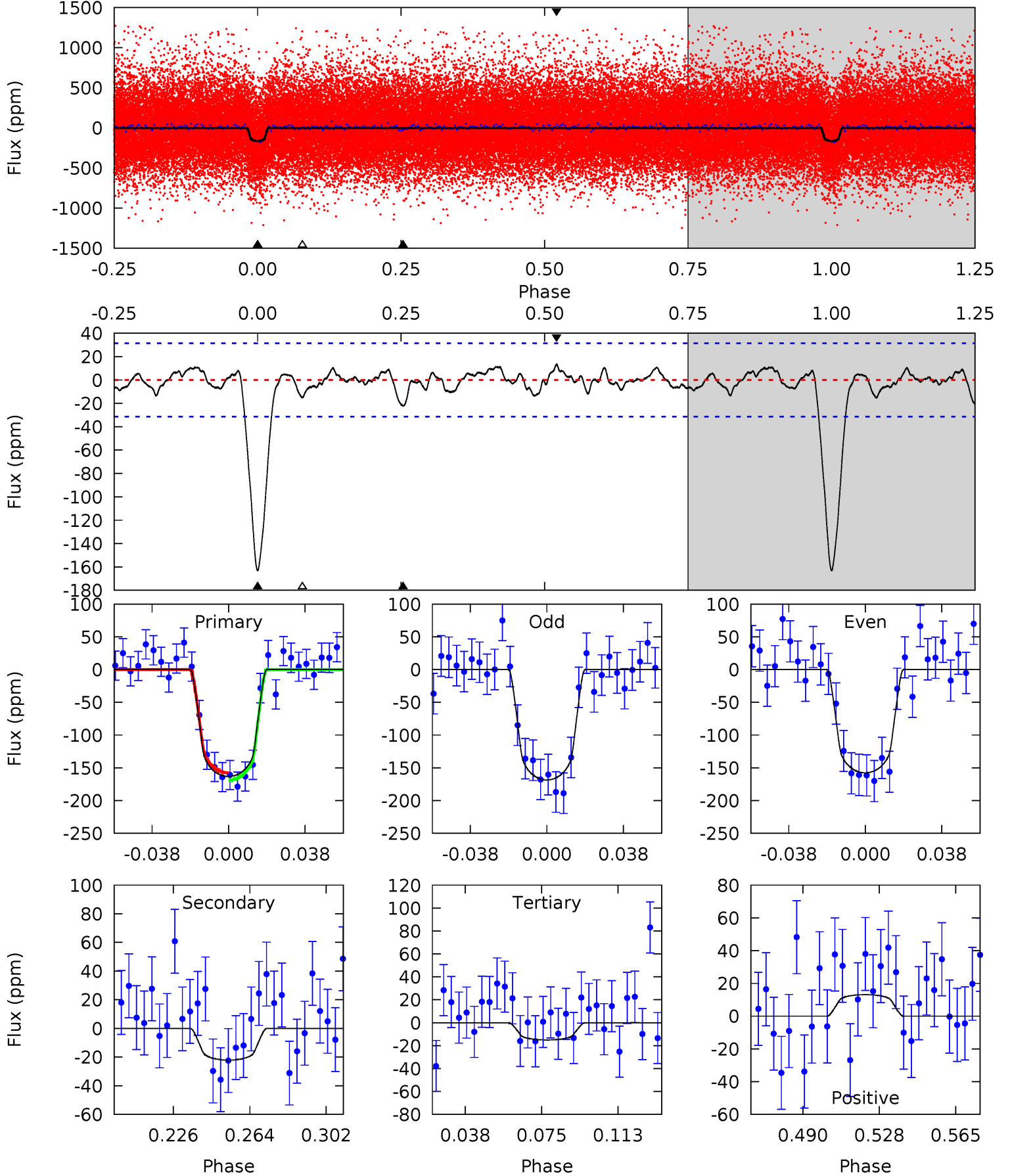
TCE 006383785-02 P= 3.622752 Days $T_0=132.993336$ (BKJD)



DV Model-Shift Uniqueness Test

006383785-02, P = 3.622764 Days, E = 129.367782 Days

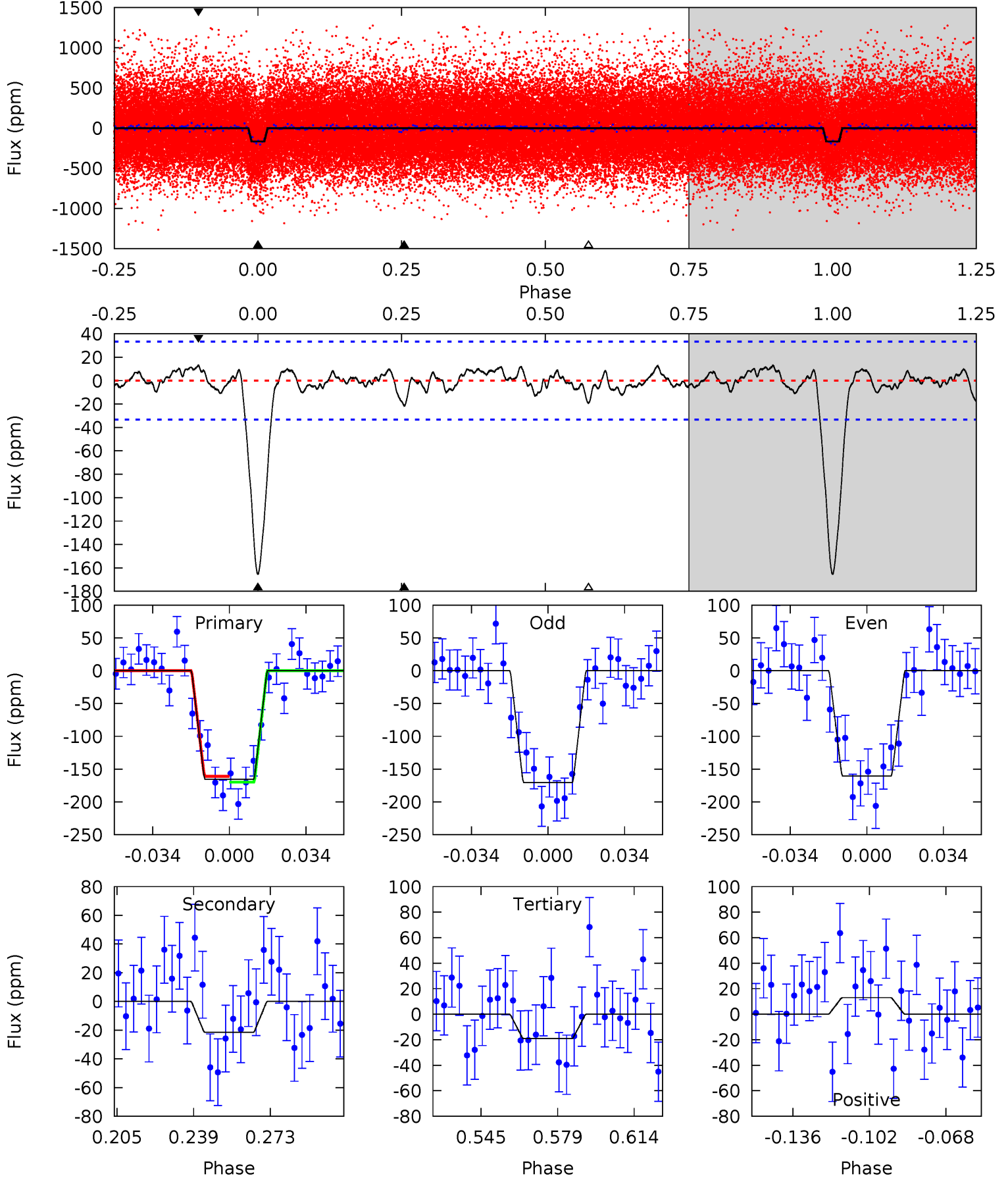
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.8	3.36	2.28	1.99	4.77	2.08	0.91	22.5	22.8	1.08	1.37	0.83	0.76	0.07	0.85



Alt Model-Shift Uniqueness Test

006383785-02, P = 3.622752 Days, E = 129.370584 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.8	3.09	2.75	1.86	4.79	2.12	0.90	21.1	22.0	0.33	1.22	0.72	1.03	0.07	0.64



Stellar Parameters For KIC 006383785

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5794^{+78}_{-78}	$4.282^{+0.137}_{-0.112}$	$0.140^{+0.150}_{-0.150}$	$1.216^{+0.201}_{-0.183}$	$1.032^{+0.079}_{-0.063}$	$0.808^{+0.487}_{-0.259}$
	+1%/-1%	+3%/-3%	+107%/-107%	+17%/-15%	+8%/-6%	+60%/-32%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 006383785-02 / KOI 0239.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-22 ± 7	$1.84^{+0.65}_{-0.67}$	1813^{+89}_{-84}	3721^{+649}_{-423}	$7.559^{+12.300}_{-3.751}$
Alt.	-21 ± 7	$1.65^{+0.76}_{-0.58}$	1817^{+84}_{-86}	3792^{+768}_{-443}	$8.869^{+15.125}_{-4.775}$

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming A=0.3)

A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

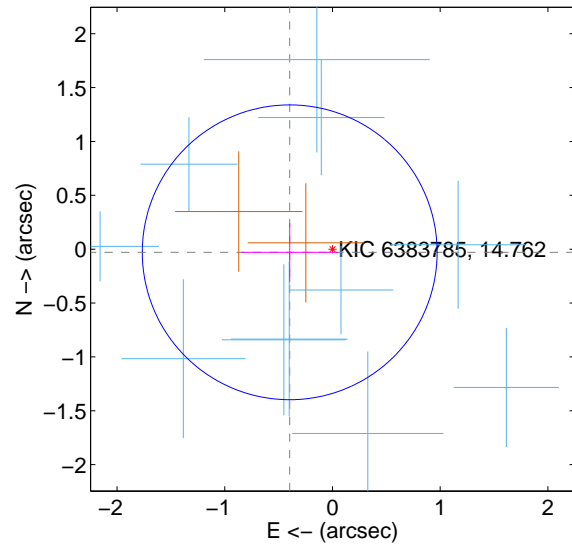
Supplemental centroid analysis for 006383785-02. Kepler magnitude: 14.76. Transit SNR 18.93

There are 12 quarters with good PRF difference image offsets

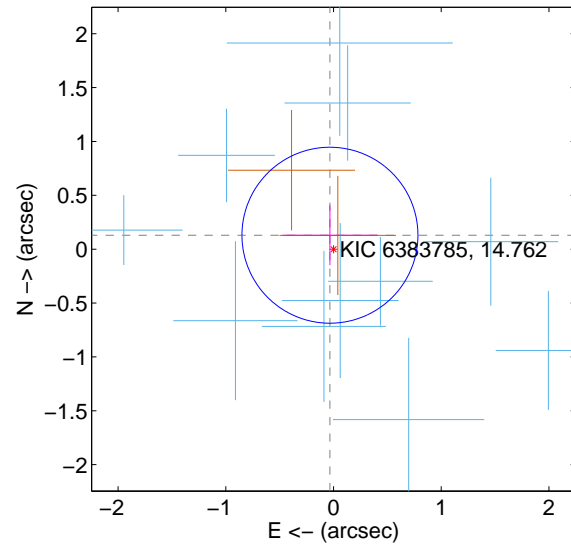
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.398 ± 0.456	0.87	0.397 ± 0.451	-0.029 ± 0.275
PRF-fit source offset from KIC position	0.134 ± 0.272	0.49	0.033 ± 0.440	0.129 ± 0.278
photometric centroid source offset	0.14 ± 0.58	0.25	0.14 ± 0.59	-0.04 ± 0.46

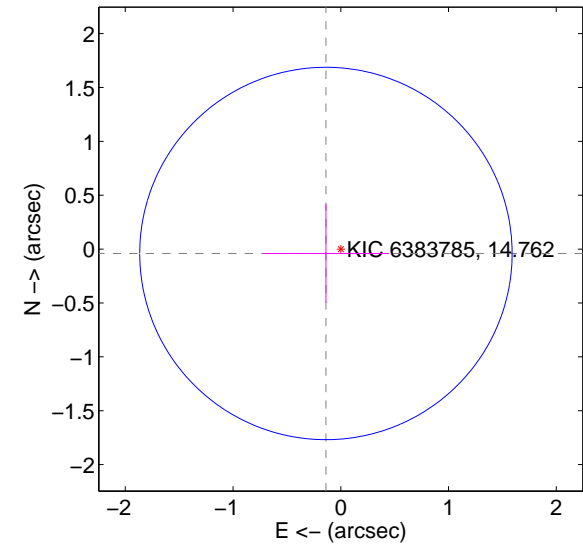
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

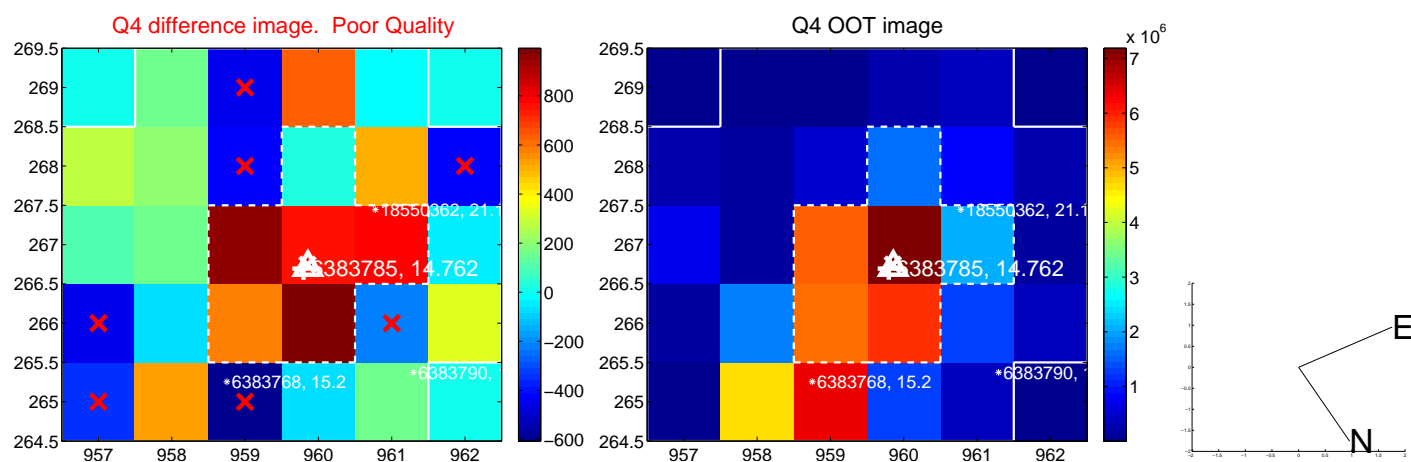
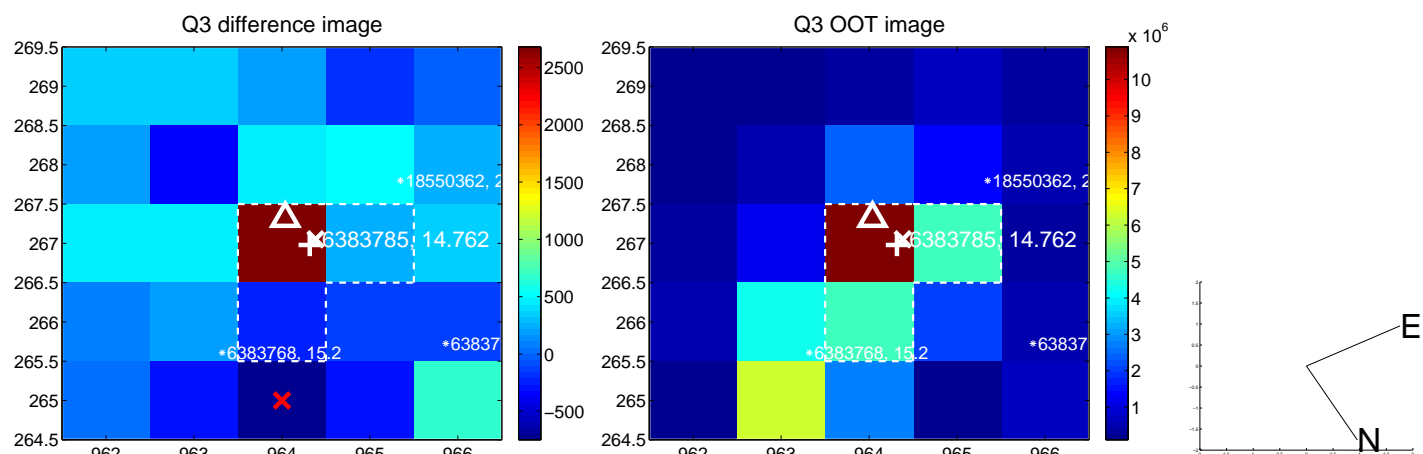
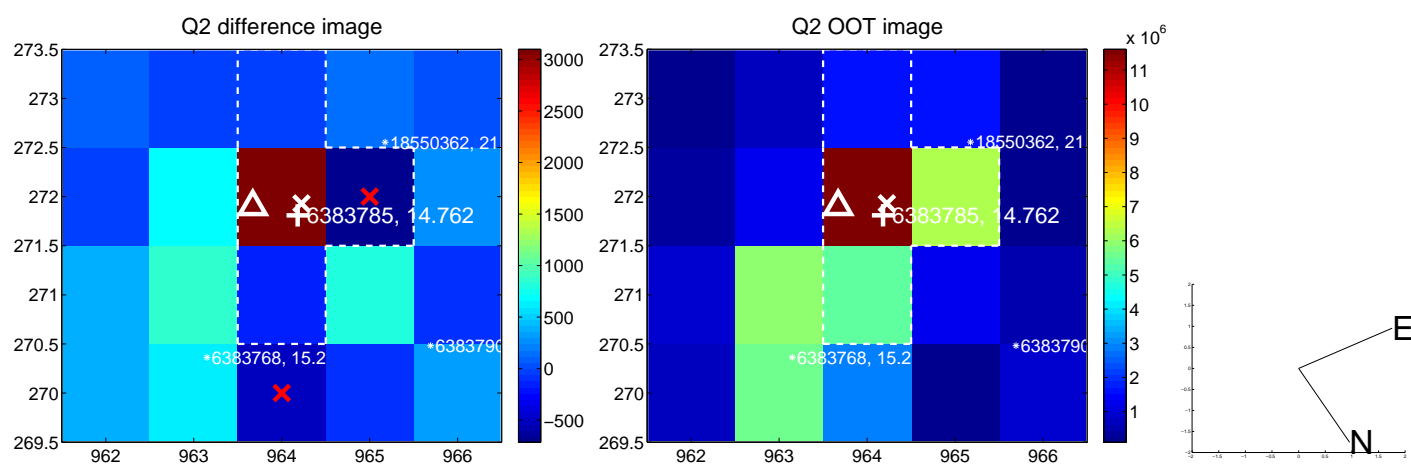
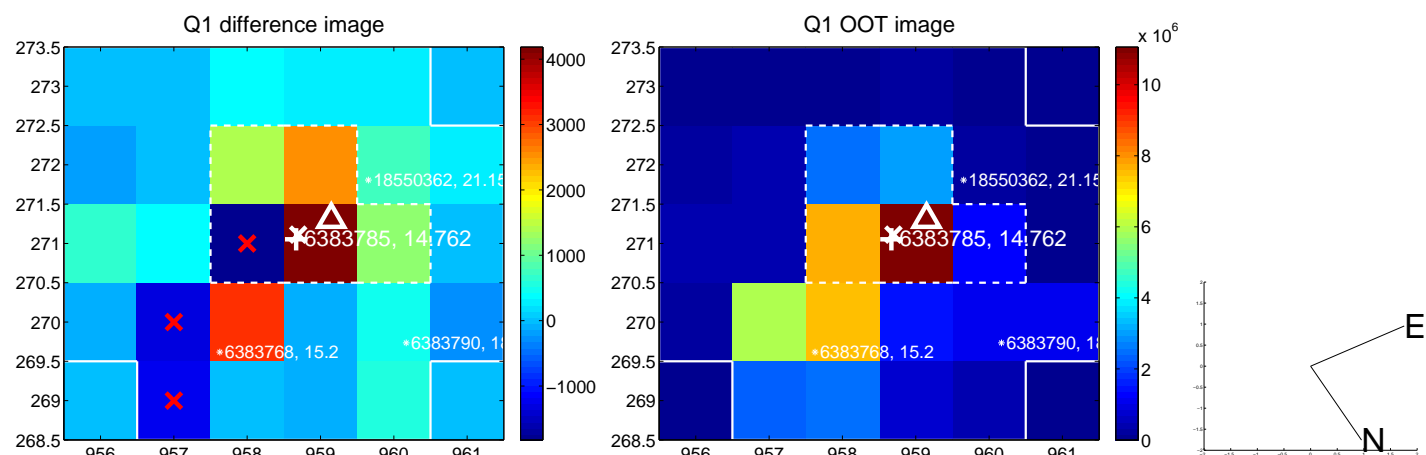


offset from photometric centroids

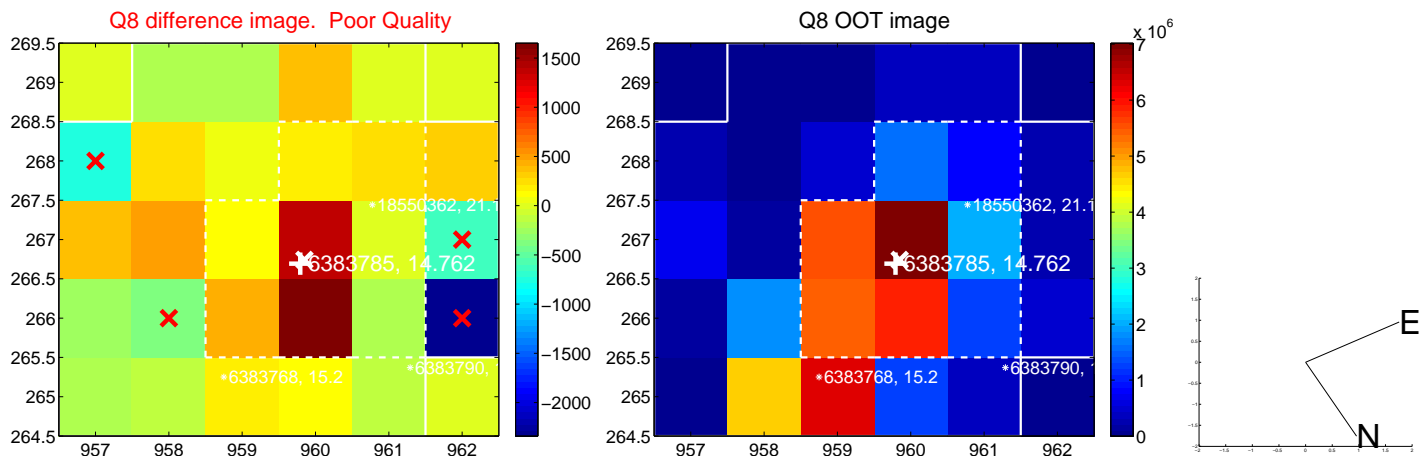
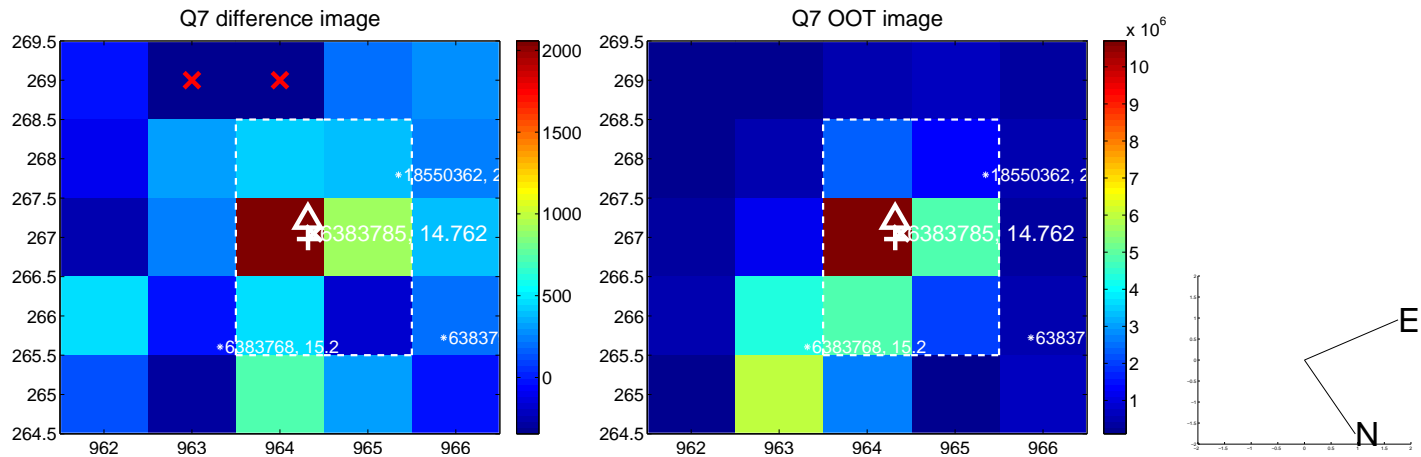
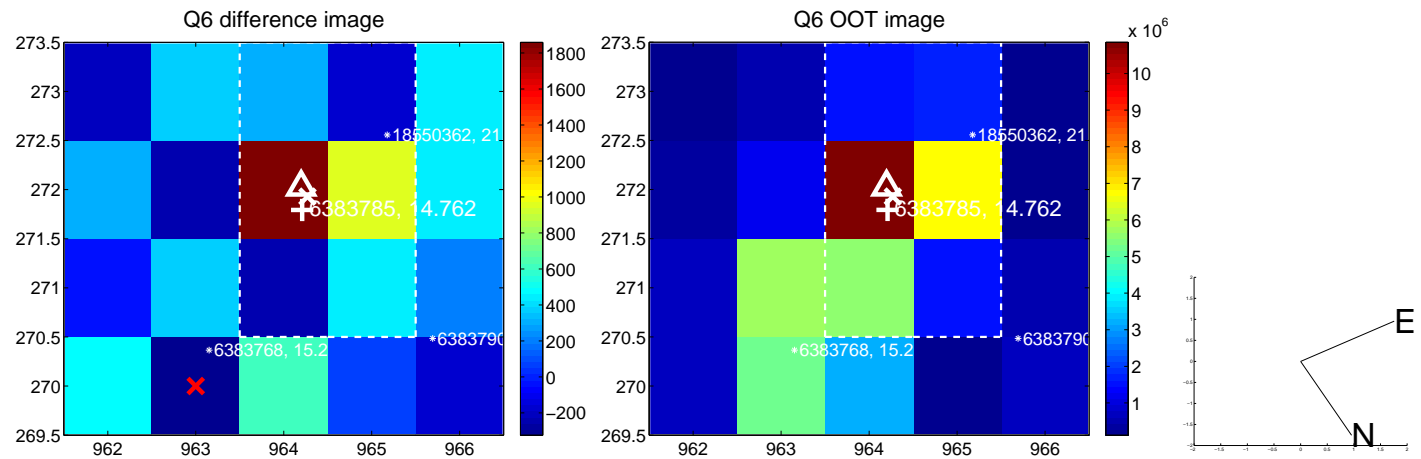
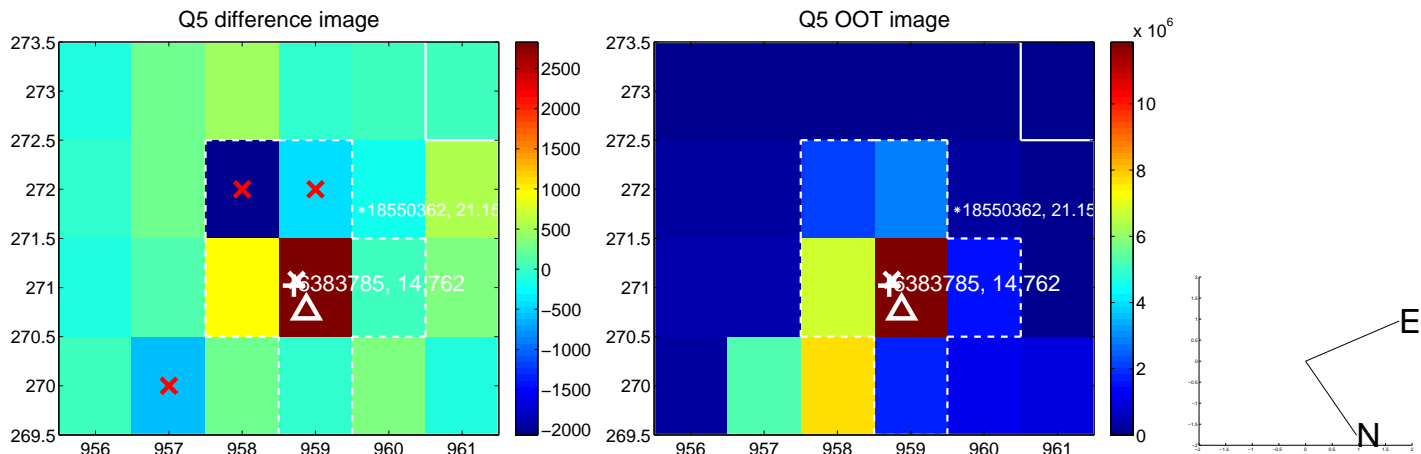


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

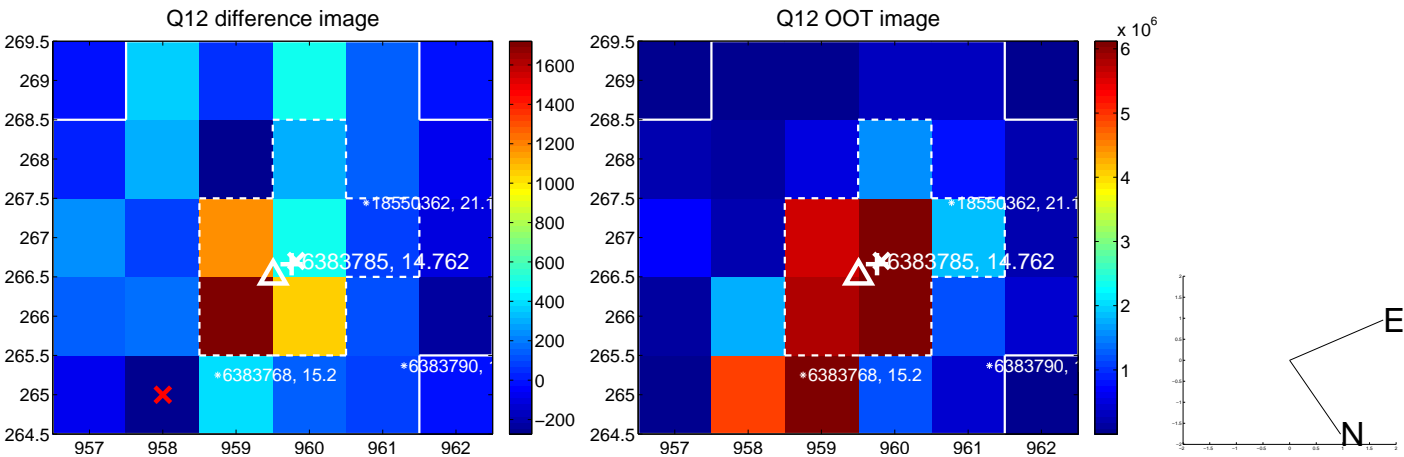
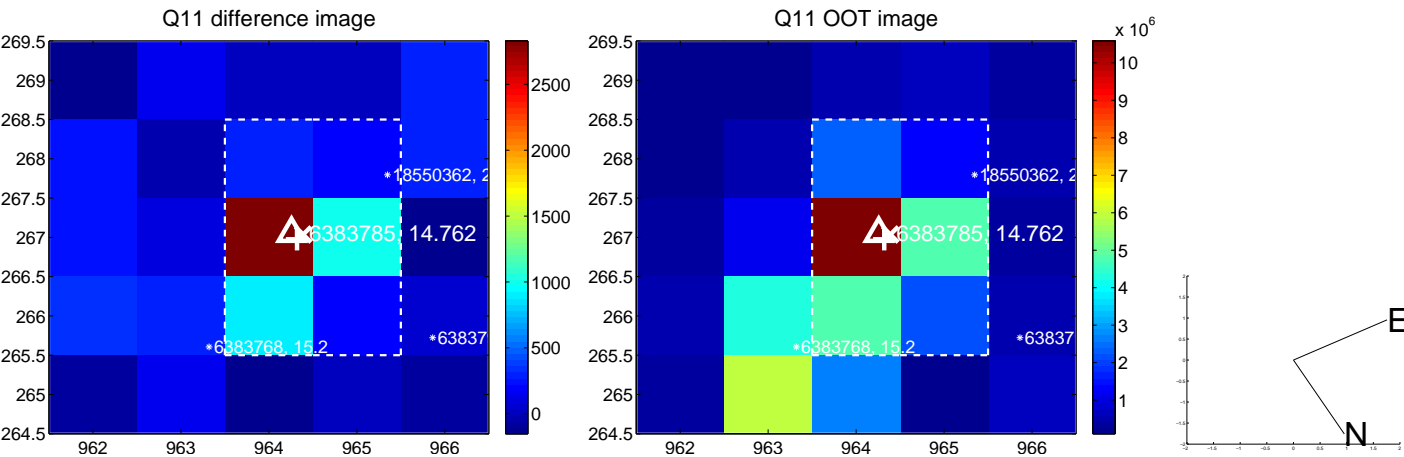
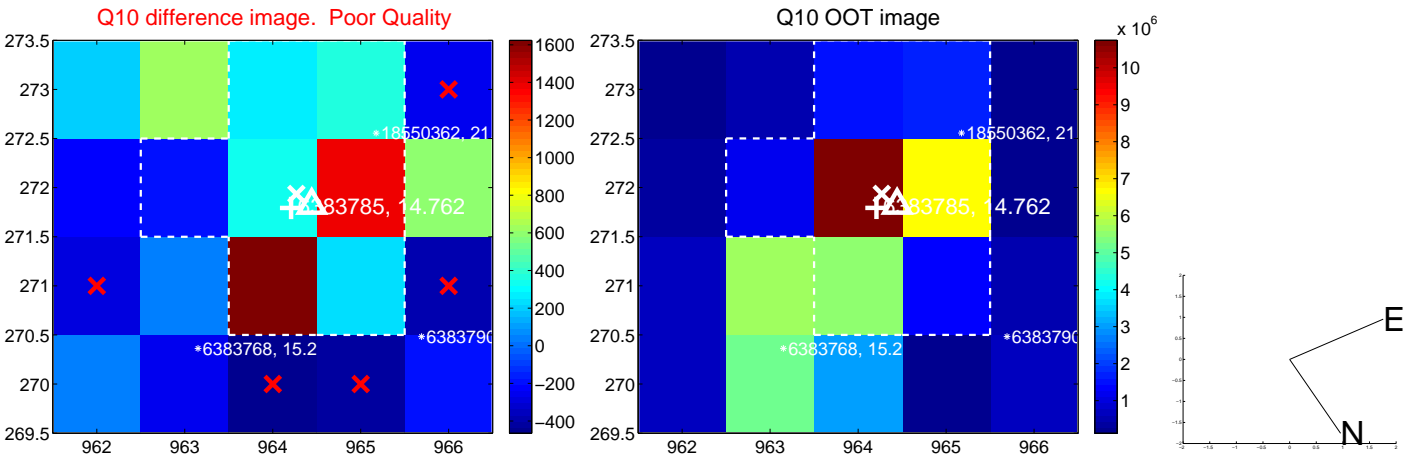
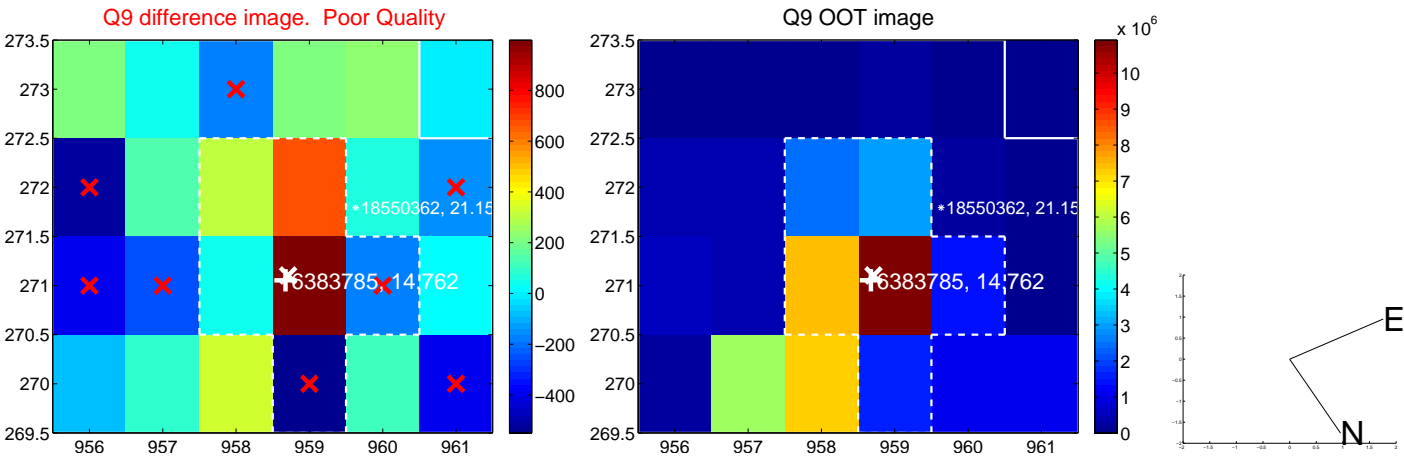
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



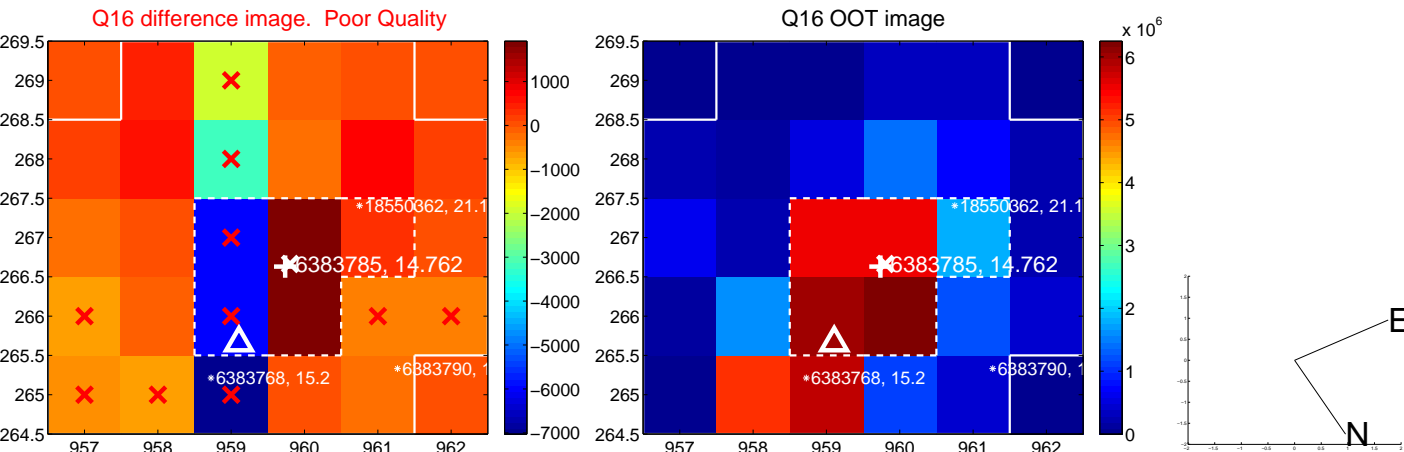
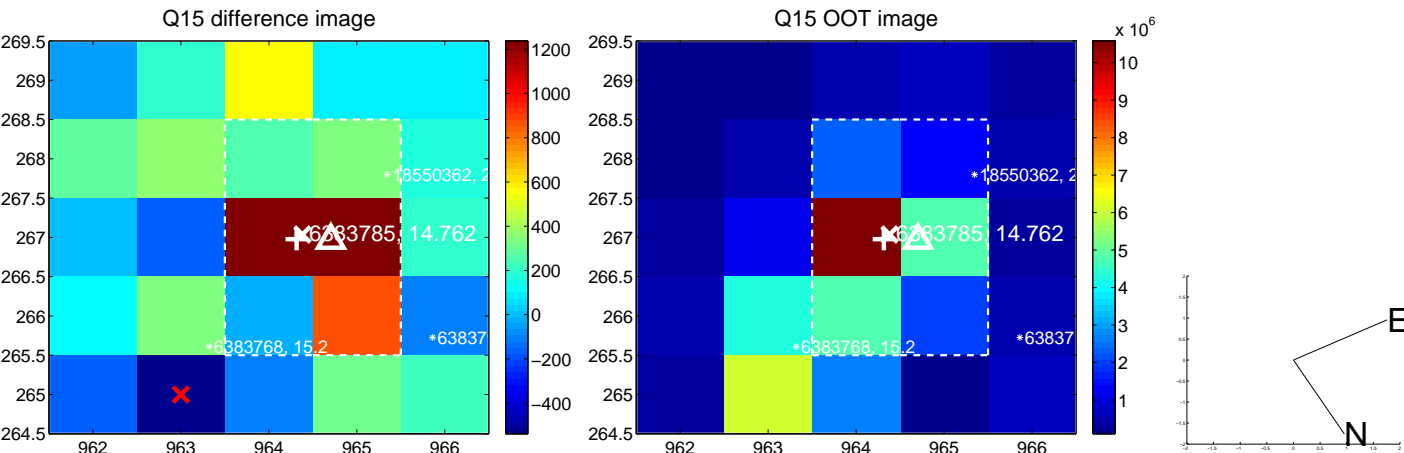
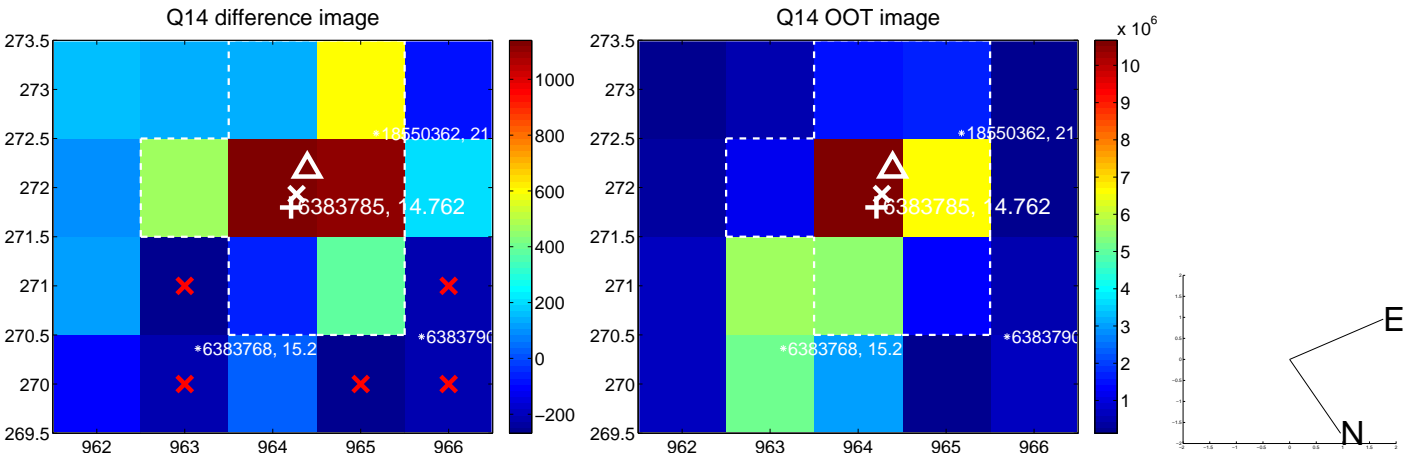
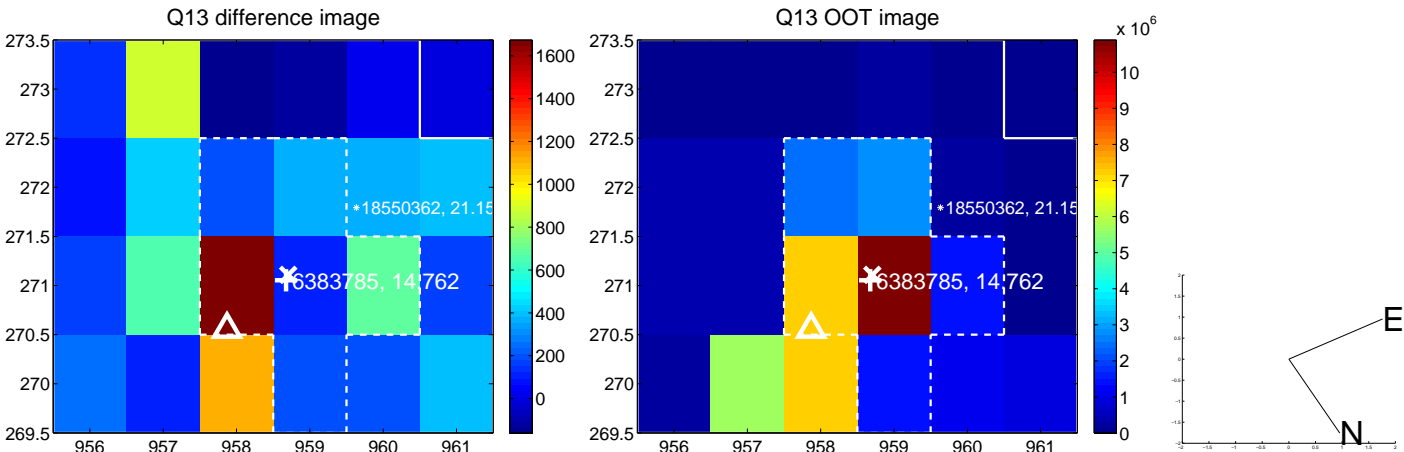
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



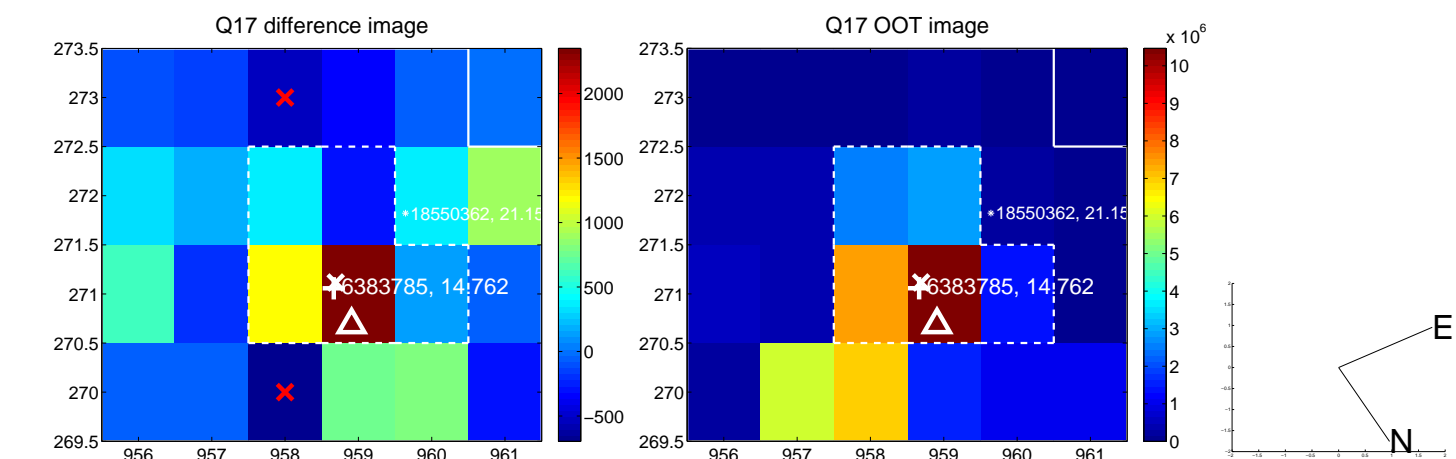
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



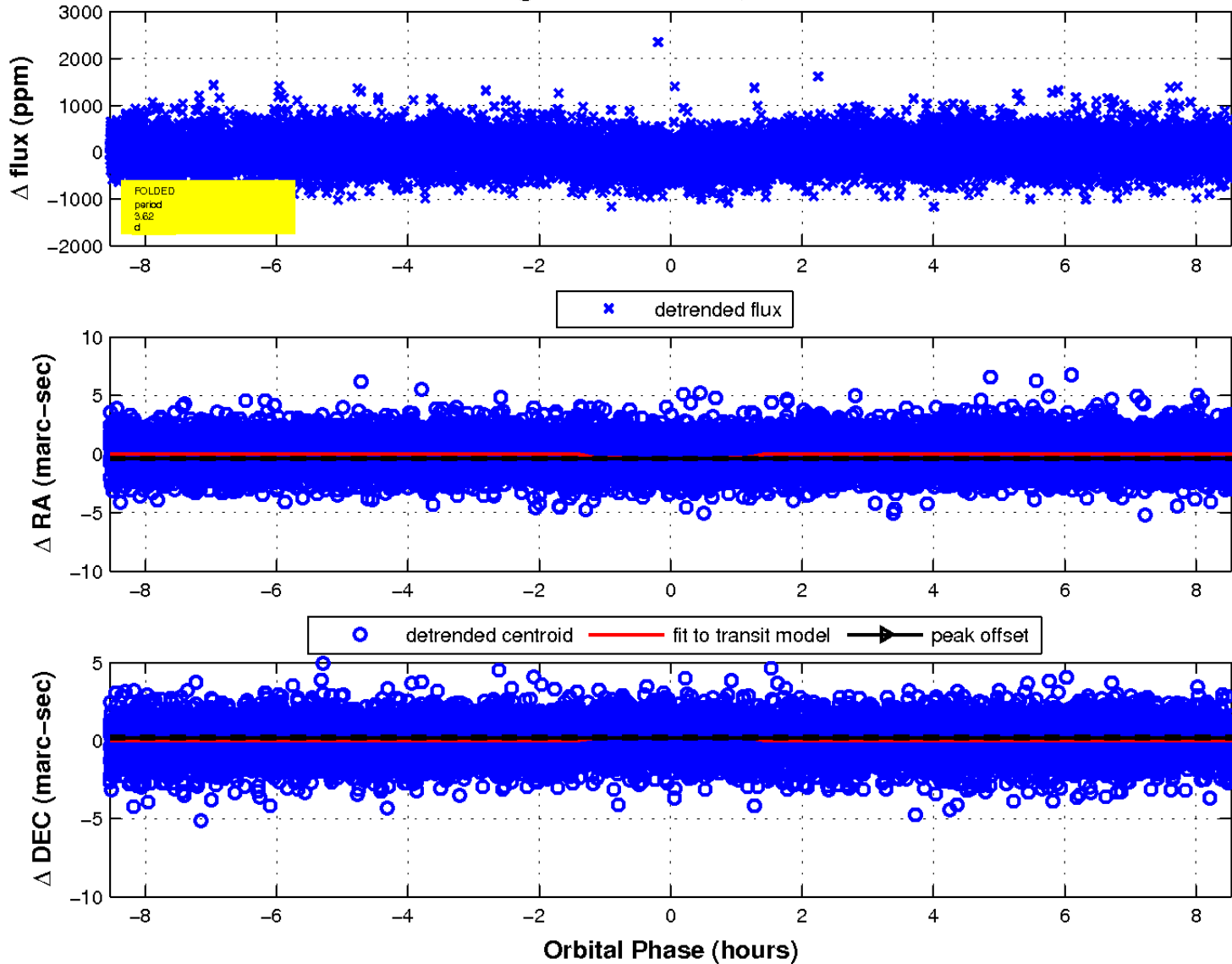
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

